

DIALINDEX(R)

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*** DIALINDEX search results display in an abbreviated ***

*** format unless you enter the SET DETAIL ON command. ***

You have 70 files in your file list.

(To see banners, use SHOW FILES command)

?(electroluminesc? luminesc?) and complex and (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

>>>"(" command not valid in DIALINDEX.

?s (electroluminesc? luminesc?) and complex and (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

Your SELECT statement is:

s (electroluminesc? luminesc?) and complex and (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

Items	File
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Status: Break Sent.

?s (electroluminesc? luminesc?) (20n) (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

Your SELECT statement is:

s (electroluminesc? luminesc?) (20n) (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

Items	File
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Examined 50 files

No files have one or more items; file list includes 70 files.

?s (electroluminesc? luminesc?) and complex

Your SELECT statement is:

s (electroluminesc? luminesc?) and complex

Items	File
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Examined 50 files

No files have one or more items; file list includes 70 files.

?s (alkenylpyridine or alkenyl(w)pyridine or vinyl(w)pyridine or vinylpyridine) and (ligand or complex or chelat? or compound) (10n) (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

Your SELECT statement is:

s (alkenylpyridine or alkenyl(w)pyridine or vinyl(w)pyridine or vinylpyridine) and (ligand or complex or chelat? or compound) (10n) (Pt or Ir or Rh or Pd or platinum or iridium or rhodium or palladium)

Items	File
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3	2: INSPEC_1969-2002/Aug W4
1	6: NTIS_1964-2002/Sep W2
19	8: Ei Compendex(R)_1970-2002/Aug W4
1	31: World Surface Coatings Abs_1976-2002/Jul
1	32: METADEX(R)_1966-2002/Sep B2
49	34: SciSearch(R) Cited Ref Sci_1990-2002/Sep W1
7	35: Dissertation Abs Online_1861-2002/Aug
1	67: World Textiles_1968-2002/Aug
8	73: EMBASE_1974-2002/Aug W4
8	94: JICST-EPlus_1985-2002/Jun W5

Status: Break Sent.

?b 2,8,94,144

29aug02 18:54:22 User264704 Session D137.2
 \$5.22 2.981 DialUnits File411
 \$5.22 Estimated cost File411
 \$1.95 TELNET
 \$7.17 Estimated cost this search
 \$7.20 Estimated total session cost 3.140 DialUnits

SYSTEM:OS - DIALOG OneSearch

File 2:INSPEC 1969-2002/Aug W4
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***File 2: Alert feature enhanced for multiple files, duplicates**
 removal, customized scheduling. See HELP ALERT.

File 8:EI Compendex(R) 1970-2002/Aug W4
 (c) 2002 Engineering Info. Inc.

***File 8: Alert feature enhanced for multiple files, duplicates**
 removal, customized scheduling. See HELP ALERT.

File 94:JICST-EPlus 1985-2002/Jun W5
 (c)2002 Japan Science and Tech Corp(JST)

***File 94: There is no data missing. UDs have been adjusted to reflect**
 the current months data. See Help News94 for details.

File 144:Pascal 1973-2002/Aug W4
 (c) 2002 INIST/CNRS

Set	Items	Description
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 ?s (alkenylpyridine or alkenyl(w)pyridine or vinyl(w)pyridine or vinylpyridine) and (li
 gand or complex or chelat? or compound) (10n) (Pt or Ir or Rh or Pd or platinum or iridiu
 m or rhodium or palladium)

	4	ALKENYLPYRIDINE
	2422	ALKENYL
	55388	PYRIDINE
	1	ALKENYL(W)PYRIDINE
	101709	VINYL
	55388	PYRIDINE
	792	VINYL(W)PYRIDINE
	3538	VINYLPYRIDINE
	197090	LIGAND
	926325	COMPLEX
	38003	CHELAT?
	1693882	COMPOUND
	181602	PT
	374395	IR
	65891	RH
	90011	PD
	128790	PLATINUM
	18275	IRIDIUM
	29473	RHODIUM
	77061	PALLADIUM
	60960	((LIGAND OR COMPLEX) OR CHELAT?) OR COMPOUND) (10N) ((((((PT OR IR) OR RH) OR PD) OR PLATINUM) OR IRIDIUM) OR RHODIUM) OR PALLADIUM)
S1	62	(ALKENYLPYRIDINE OR ALKENYL(W)PYRIDINE OR VINYL(W)PYRIDINE OR VINYLPYRIDINE) AND (LIGAND OR COMPLEX OR CHELAT? OR COMPOUND) (10N) (PT OR IR OR RH OR PD OR PLATINUM OR IRIDIUM OR RHODIUM OR PALLADIUM)

?rd

...examined 50 records (50)

...completed examining records

S2 57 RD (unique items)

?t s2/full/1-5

2/9/1 (Item 1 from file: 2)
DIALOG(R) File 2:INSPEC
(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5834405 INSPEC Abstract Number: A9806-8120S-003

Title: Preparation and preliminary characterization of a poly(4-vinylpyridine) complex of a water-soluble polyaniline

Author(s): Tallman, D.E.; Wallace, G.G.

Author Affiliation: Dept. of Chem., Wollongong Univ., NSW, Australia

Journal: Synthetic Metals vol.90, no.1 p.13-18

Publisher: Elsevier,

Publication Date: 15 Oct. 1997 Country of Publication: Switzerland

CODEN: SYMEDZ ISSN: 0379-6779

SICI: 0379-6779(19971015)90:1L:13:PPCP;1-W

Material Identity Number: S253-97019

U.S. Copyright Clearance Center Code: 0379-6779/97/\$17.00

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: A polymer complex between a sulfonated water-soluble polyaniline (SPANI) and poly(4- **vinylpyridine**) (PVP) is formed by mixing an aqueous solution of the protonated (hydrogen chloride) form of PVP, a cationic polyelectrolyte, with an aqueous solution of SPANI. A gel-like precipitate forms which has limited solubility in many common solvents. Thus, the approach represents a possible route to the aqueous solution processing of polyaniline. The nitrogen-to-sulfur ratio of the complex indicates approximately a 1:1 stoichiometry between PVP and SPANI monomer units. The complex exhibits modest conductivity (3.3×10^{-5} S/cm) and is electroactive when immobilized on carbon or **platinum** electrodes. The swellability of the gel form of the **complex** is characterized by a solvent content of 16 grams per gram of dry material. Thermal analysis of the dry complex indicates stability to 225 degrees C. (17 Refs)

Subfile: A

Descriptors: conducting polymers; gels; materials preparation; one-dimensional conductivity; polymer blends; polymer solutions; precipitation (physical chemistry); stoichiometry; thermal analysis; thermal stability; voltammetry (chemical analysis)

Identifiers: polymer complex; sulfonated polyaniline; poly(4 **vinylpyridine**); preparation; precipitate; solubility; aqueous solution processing; nitrogen sulfur ratio; stoichiometry; electrical conductivity; gel; swellability; solvent concentration; thermal analysis; thermal stability

Class Codes: A8120S (Preparation of polymers and plastics); A6125H (Structure of macromolecular and polymer solutions (solubility, swelling, etc.); polymer melts); A6480E (Stoichiometry and homogeneity); A7215N (Collective modes; low-dimensional conductors); A8270G (Gels and sols); A8280F (Electrochemical analytical methods); A6140K (Structure of polymers, elastomers, and plastics); A8235 (Polymer reactions and polymerization)

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2/9/2 (Item 2 from file: 2)
DIALOG(R) File 2:INSPEC
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4825378 INSPEC Abstract Number: A9501-7220-001

Title: beta -radiation-induced conductivity of poly(2- vinylpyridine)-cobalt complex

Author(s): Chohan, M.H.; Asghar, M.; Adris, T.

Author Affiliation: Dept. of Electron., Quaid-i-Azam Univ., Islamabad, Pakistan

Journal: Journal of Materials Science Letters vol.13, no.19 p. 1426-7

Publication Date: 1 Oct. 1994 Country of Publication: UK

CODEN: JMSLD5 ISSN: 0261-8028

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Previously the authors have studied the electrical properties

2,9-diphenyl-1,10-phenanthroline; Pt complexes; cyclometalated complex; donor-acceptor complex; sup 1/H-/sup 1/H COSY; X-ray crystallography; triclinic; solution excimeric emission; solid-state emission; dimeric unit; crystalline state; covalently-linked donor-acceptor organometallic complexes; 4-(4-nitrobenzyl)pyridine; 4-(2-(9-anthryl) vinyl) pyridine ; phenyl rings; photoluminescent properties; organic quenchers
Class Codes: A7855H (Other inorganic materials); A6160 (Specific structure of inorganic compounds); A7660 (Nuclear magnetic resonance and relaxation)

2/9/4 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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08510449 E.I. No: EIP01035587965

Title: Noble metal ion sorption by pyridyl and bipyridyl group-containing chelating polymers

Author: Talanova, Galina G.; Zhong, Longgui; Kravchenko, Olga V.; Yatsimirskii, Konstantin B.; Bartsch, Richard A.

Corporate Source: Texas Tech Univ, Lubbock, TX, USA

Source: Journal of Applied Polymer Science v 80 n 2 Apr 2001. p 207-213

Publication Year: 2001

CODEN: JAPNAB ISSN: 0021-8995

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 0105W1

Abstract: A series of eighteen 4-vinylpyridine and 4-methyl-4 prime -vinylbipyridine copolymers with different crosslinkers was examined as sorbents for the noble metal ions of Ag(I), Au(III), Pd (II), and Pt (II) from aqueous solutions. The chelating polymers possess appreciable sorption selectivity for Au(III) over Ag(I) and for Pd(II) over Pt(II). Binding abilities of the copolymers toward the noble metal ions vary as the identity of the chelating heterocyclic amine moiety and the structure of the crosslinkers are altered. (Author abstract) 9 Refs.

Descriptors: Copolymers; Chelation ; Sorption; Silver; Gold; Palladium ; Platinum ; Ions; Solutions; Organic polymers

Identifiers: Chelating polymers; Pyridyl groups; Bipyridyl groups; Noble metal ions; Sorption selectivity; Heterocyclic amine moiety; Crosslinkers

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 802.2 (Chemical Reactions); 802.3 (Chemical Operations); 547.1 (Precious Metals); 801.1 (Chemistry, General); 801.4 (Physical Chemistry)

815 (Plastics & Polymeric Materials); 802 (Chemical Apparatus & Plants) ; 547 (Precious & Rare Earth Metals & Alloys); 801 (Chemical Analysis & Physical Chemistry)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING); 54 (METAL GROUPS)

2/9/5 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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06026035 E.I. No: EIP02126897680

Title: Poly(vinyl diphenylquinoline): A new pH-tunable light-emitting and charge-transport polymer synthesized by a simple modification of polystyrene

Author: Lu, Liangde; Jenekhe, Samson A.

Corporate Source: Dept. of Chem. Eng./Chemistry University of Washington Box 351750, Seattle, WA 98195-1750, United States

Source: Macromolecules v 34 n 18 Aug 28 2001. p 6249-6254

Publication Year: 2001

CODEN: MAMOBX ISSN: 0024-9297

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 0203W5

Abstract: Electroactive and blue light-emitting poly(vinyl diphenylquinoline) (PVQ) was synthesized in nearly quantitative yield by a simple modification of polystyrene. The new polymer and its model **compound** 2,4-diphenylquinoline were characterized by ^{1}H NMR, FT-IR, photoluminescence spectroscopies, and thermal analysis. PVQ has a glass transition temperature of 185 degree C, is soluble in many organic solvents, and is a weak base comparable in basicity to poly(vinylpyridine). It emits blue light in neutral solution and in thin solid films. In acidic solutions, PVQ exhibits a pH-tunable photoluminescence with emission maximum that varies from 486 nm (blue) to 529 nm (green). Intramolecular excimer emission was observed in acidic solutions but not in neutral solutions or thin films of the polymer. The dominant fluorescence lifetimes of the polymer were about 1.2-1.3 ns in thin films or neutral solutions and close to 20 ns in acidic solutions. The coupling of acid-base chemistry to light-emitting and optoelectronic properties in PVQ suggests that it may find applications in electroluminescence, sensors, and catalysis. 37 Refs.

Descriptors: *Vinyl resins; Polystyrenes; Synthesis (chemical); Thin films; Solvents; Photoluminescence; Glass transition; Charge transfer; Infrared spectroscopy; Nuclear magnetic resonance spectroscopy; Thermoanalysis

Identifiers: Light-emitting polymers

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 802.2 (Chemical Reactions); 714.2 (Semiconductor Devices & Integrated Circuits); 741.1 (Light & Optics); 802.3 (Chemical Operations); 931.3 (Atomic & Molecular Physics) 815 (Polymers & Polymer Science); 802 (Chemical Apparatus & Plants; Unit Operations; Unit Processes); 714 (Electronic Components & Tubes); 803 (Chemical Agents & Basic Industrial Chemicals); 741 (Light, Optics & Optical Devices); 931 (Applied Physics Generally); 801 (Chemistry) 81 (CHEMICAL ENGINEERING, PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING, GENERAL); 71 (ELECTRONICS & COMMUNICATION ENGINEERING); 74 (LIGHT & OPTICAL TECHNOLOGY); 93 (ENGINEERING PHYSICS)
?t s2/full/6-57

2/9/6 (Item 3 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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05894386 E.I. No: EIP01296584819

Title: Interactions of polymer-small molecule complex with cupric (II) ions in aqueous ethanol solution

Author: Acar, N.; Tulun, T.

Corporate Source: Faculty of Science Department of Chemistry Technical University of Istanbul, 80626 Maslak Istanbul, Turkey

Source: European Polymer Journal v 37 n 8 August 2001. p 1599-1605

Publication Year: 2001

CODEN: EUPJAG ISSN: 0014-3057

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 0110W1

Abstract: A complex was prepared by mixing ethanol solutions of poly(4-vinyl pyridine) (P4VP) and 4-amino benzoic acid. The **complex** (PEC) formation was studied by ^{13}C NMR, IR spectroscopy, differential scanning calorimetry and potentiometry. It was found that hydrogen bond is formed between P4VP and 4-amino benzoic acid. Dissolution was assessed visually at room temperature using dimethyl formamide, dimethyl sulfoxide, methanol, ethanol, ethanol-water. After dissolution of PEC in aqueous-ethanol (50% v/v) solution, the interaction of PEC with Cu^{2+} ions has been investigated by potentiometric titration. The average number of ligands coordinated with the central metal ion and the stability constants of PEC-metal complex were determined. copy 2001 Elsevier Science Ltd. 24 Refs.

Descriptors: *Metallorganic polymers; Copper; Vinyl resins; Amino acids; Ethanol; Hydrogen bonds; Polyelectrolytes; Nuclear magnetic resonance

spectroscopy; Infrared spectroscopy; Differential scanning calorimetry; Dissolution; Metabolism

Identifiers: Potentiometry; Polyvinylpyridine; Amino benzoic acid; Dimethyl formamide; Dimethyl sulfoxide

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 544.1 (Copper); 804.1 (Organic Compounds); 801.4 (Physical Chemistry); 817.1 (Plastics Products); 931.3 (Atomic & Molecular Physics); 741.1 (Light & Optics); 944.6 (Temperature Measurements); 802.3 (Chemical Operations); 804.2 (Inorganic Compounds)

815 (Polymers & Polymer Science); 544 (Copper & Alloys); 804 (Chemical Products Generally); 801 (Chemistry); 817 (Plastics, Products & Applications); 931 (Applied Physics Generally); 741 (Light, Optics & Optical Devices); 944 (Moisture, Pressure & Temperature; Radiation Measuring Instruments); 802 (Chemical Apparatus & Plants; Unit Operations; Unit Processes)

81 (CHEMICAL ENGINEERING, PROCESS INDUSTRIES); 54 (METALLURGICAL ENGINEERING, METAL GROUPS); 80 (CHEMICAL ENGINEERING, GENERAL); 93 (ENGINEERING PHYSICS); 74 (LIGHT & OPTICAL TECHNOLOGY); 94 (INSTRUMENTS & MEASUREMENT)

2/9/7 (Item 4 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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04952202 E.I. No: EIP98024085624

Title: Kinetic study on the carbonylation of methyl acetate to acetic anhydride catalyzed by partially quaternized poly(4-vinylpyridine) bound rhodium complexes

Author: Wang, Enlai; Li, Xiaobao; Jiang, Dazhi

Corporate Source: Chinese Acad of Sciences, Beijing, China

Source: Polymers for Advanced Technologies, v 8 n 11 Nov 1997. p 644-648

Publication Year: 1997

CODEN: PADTE5 ISSN: 1042-7147

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9804W4

Abstract: The carbonylation of methyl acetate to acetic anhydride catalyzed by a partially quaternized poly(4-vinylpyridine) bound rhodium complex with methyl iodide as the promotor has been investigated. The reaction was verified to be first order with respect to both rhodium and methyl iodide in the presence of lithium acetate and provided that the partial pressure of carbon monoxide was above 1.5 MPa. The oxidative addition of methyl iodide to the active rhodium species and the subsequent reaction of acetyl iodide with methyl acetate to produce acetic anhydride were discovered to be the two rate-determining steps, of which the latter depended on the concentration of lithium acetate. A possible reaction mechanism was suggested. The activation parameters were determined and revealed that a higher catalytic activity of the partially quaternized poly(4-vinylpyridine) bound rhodium complex for the carbonylation of methyl acetate to acetic anhydride was essentially due to the reduction of activation energy. (Author abstract) 9 Refs.

Descriptors: *Vinyl resins; Carbonylation; Reaction kinetics; Rhodium compounds; Catalyst activity; Activation energy; Lithium compounds; Catalysis

Identifiers: Methyl acetate; Acetic anhydride; Polyvinylpyridine; Lithium acetate

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 802.2 (Chemical Reactions); 801.4 (Physical Chemistry); 804.1 (Organic Components)

815 (Plastics & Polymeric Materials); 802 (Chemical Apparatus & Plants); 803 (Chemical Agents & Basic Industrial Chemicals); 804 (Chemical Products); 801 (Chemical Analysis & Physical Chemistry)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING)

2/9/8 (Item from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04673996 E.I. No: EIP97043624225

Title: Solvent - impregnated resins via acid-base interaction of poly(4-vinylpyridine) resin and di(2-ethylhexyl) dithiophosphoric acid

Author: Warshawsky, A.; Strikovskiy, A.G.; Jerabek, K.; Cortina, J.L.

Corporate Source: Weizmann Inst of Science, Rehovot, Isr

Source: Solvent Extraction and Ion Exchange v 15 n 2 Mar 1997. p 259-283

Publication Year: 1997

CODEN: SEIEDB ISSN: 0736-6299

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9706W2

Abstract: The immobilization of a strong metal chelator di(2-ethylhexyl) dithiophosphoric acid (DEHTPA) on poly(4- **vinylpyridine**) macroporous resin (Reillex HP and Reillex 425) has been investigated. DEHTPA (ligand) adsorption mechanism was proposed on the basis of the SIR morphology and **IR** spectrophotometry study. Analysis of the **ligand** distribution between the poly(4- **vinylpyridine**) support and the aqueous phase was performed using curve-fitting computerized method. Equilibrium constants characterizing the DEHTPA - pyridine group interaction have been evaluated. Pore volume increase, due to this interaction, are noted. Preliminary metal extraction studies were performed. (Author abstract) 21 Refs.

Descriptors: *Solvent extraction; Organic polymers; Phosphoric acid; Organic solvents; Impregnation; Adsorption; Morphology; Spectrophotometry; Computer applications; Curve fitting

Identifiers: Solvent impregnated resins; Acid base interaction; Polyvinylpyridine resin; Diethylhexyl dithiophosphoric acid

Classification Codes:

815.1.1 (Organic Polymers)

802.3 (Chemical Operations); 815.1 (Polymeric Materials); 804.2 (Inorganic Components); 804.1 (Organic Components); 931.2 (Physical Properties of Gases, Liquids & Solids); 941.4 (Optical Variables Measurements)

802 (Chemical Apparatus & Plants); 815 (Plastics & Polymeric Materials); 804 (Chemical Products); 931 (Applied Physics); 941 (Acoustical & Optical Measuring Instruments)

80 (CHEMICAL ENGINEERING); 81 (CHEMICAL PROCESS INDUSTRIES); 93 (ENGINEERING PHYSICS); 94 (INSTRUMENTS & MEASUREMENT)

2/9/9 (Item 6 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04556521 E.I. No: EIP96113419248

Title: Study of carbonylation of methanol to acetic acid and acetic anhydride over a bidentate polymer bound cis-dicarbonylrhodium complex as catalyst

Author: Wang, Xiaojun; Liu, Zhongyang; Pan, Pinglai; Yuan, Guoqing

Corporate Source: Chinese Acad of Sciences, Beijing, China

Source: Chinese Journal of Polymer Science (English Edition) v 14 n 3 1996. p 233-239

Publication Year: 1996

CODEN: CJPSEG ISSN: 0256-7679

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9701W2

Abstract: Copolymer of 2- **vinylpyridine** and vinylacetate coordinated with dicarbonylrhodium used as a catalyst for carbonylation of methanol to acetic acid and anhydride has been studied. The structural characteristics of the copolymer ligand and complex, and the influences of the reaction conditions on the carbonylation catalyzed by this polymer **complex** have been investigated. In comparison with small molecule catalyst of **Rh**

complex, the bidentate copolymer coordinated **complex** s better thermal stability. The reaction mechanism of the carbonylation reaction is also illustrated. (Author abstract) 9 Refs.

Descriptors: *Vinyl resins; Carbonylation; Methanol; Acetic acid; Rhodium compounds; Catalysts; Coordination reactions; Copolymers; Thermodynamic stability; Structure (composition)

Identifiers: Acetic anhydride; Bidentate polymer; Cis dicarbonylrhodium complex; Copolymer ligand

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 802.2 (Chemical Reactions); 804.1 (Organic Components); 641.1 (Thermodynamics); 931.2 (Physical Properties of Gases, Liquids & Solids)

815 (Plastics & Polymeric Materials); 802 (Chemical Apparatus & Plants); 804 (Chemical Products); 641 (Heat & Thermodynamics); 931 (Applied Physics)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING); 64 (HEAT & THERMODYNAMICS); 93 (ENGINEERING PHYSICS)

2/9/10 (Item 7 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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04183073 E.I. No: EIP95042679994

Title: Reactive blending via metal-ligand coordination

Author: Belfiore, Laurence A.; Mccurdie, Mary Pat

Corporate Source: Colorado State University, Fort Collins, CO, USA

Source: Journal of Polymer Science, Part B: Polymer Physics v 33 n 1 Jan 15 1995. p 105-124

Publication Year: 1995

CODEN: JPBPEM ISSN: 0887-6266

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9508W2

Abstract: d-Block transition-metal-containing polymer blends which form coordination complexes are described in this treatise. The model compounds are zinc acetate dihydrate, copper acetate dihydrate, nickel acetate tetrahydrate, cobalt chloride hexahydrate, palladium chloride bis(acetonitrile), and the dimer of dichlorotricarbonylruthenium(II). Two classes of ligands are of interest. Poly(4- **vinylpyridine**), P4VP, and copolymers that contain 4-vinylpyridine repeat units form complexes with zinc, copper, nickel, cobalt, and ruthenium salts. Atactic 1,2-polybutadiene contains olefinic sidegroups that displace weakly bound acetonitrile ligands and coordinate to palladium chloride. Thermal analysis via differential scanning calorimetry suggests that the glass transition temperature of the polymeric ligand is enhanced by these low-molecular-weight transition-metal salts in binary and ternary blends. In some cases, d-block salts function as transition-metal compatibilizers for copolymers that would otherwise be immiscible. The isothermal ternary phase diagram for polybutadiene with palladium chloride highlights regions of gelation, precipitation, and transparent solutions during blend preparation in tetrahydrofuran. Fourier transform infrared spectroscopy provides molecular-level data that support the concept of polymeric coordination complexes. High-resolution carbon-13 solid-state NMR spectroscopy identifies (1) near-neighbor interactions between polymeric pyridine ligands and the ruthenium salt, and (2) a considerable reduction in the molecular mobility of the polybutadiene chain backbone when it forms a coordination **complex** with **palladium** chloride. The elastic modulus of polybutadiene increases by three orders of magnitude when the palladium salt concentration is 4 mol % in a solid-state glassy film. A thermodynamic interpretation of ligand field stabilization energies appropriate to tetrahedral cobalt and octahedral nickel complexes is employed to estimate the synergistic enhancement of the glass transition temperature, particularly when coordination crosslinks are present. 42 Refs Refs.

Descriptors: *Polymer blends; Transition metals; Polybutadienes; Crosslinking; Gelation; Glass transition; Metallorganic polymers;

Thermodynamics; Thermoanalysis; Phase diagrams

Identifiers: I on f d stabilization; Coordination complexes

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 817.1 (Plastics Products); 816.1 (Plastics Processing); 815.2 (Polymerization); 931.2 (Physical Properties of Gases, Liquids & Solids); 64P.1 (Thermodynamics)

815 (Plastics & Polymeric Materials); 817 (Plastics, Products & Applications); 540 (METAL GROUPS); 816 (Plastics, Plant Equipment & Processes); 931 (Applied Physics); 641 (Heat & Thermodynamics)

81 (CHEMICAL PROCESS INDUSTRIES); 54 (METAL GROUPS); 93 (ENGINEERING PHYSICS); 64 (HEAT & THERMODYNAMICS)

2/9/11 (Item 8 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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04085233 E.I. No: EIP95022591463

Title: Catalytic hydrogenation over platinum complexes with poly(vinylpyridine)s

Author: Zharmagambetova, A.; Mukhamedzhanova, S.; Dusenbina, B.

Corporate Source: Kazakh Natl Acad of Sciences, Almaty, Kazakhstan

Source: Reactive Polymers v 24 n 1 Nov 1994. p 21-25

Publication Year: 1994

CODEN: REPLEN ISSN: 0923-1137

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9505W1

Abstract: Platinum complexes with poly(vinylpyridine) ligands have been studied as catalysts in the reaction of nitrobenzene and 2-propen-1-ol hydrogenation. Pretreatment of the complexes with NaBH₄ causes the reduction of part of platinum into lower valent states (XPS data) and a decrease of catalytic activity of polymer-metal complexes. The structure of polymer ligands and the position of substituents on the pyridine ring of poly(vinylpyridine) have been shown to affect properties of obtained catalysts. A platinum complex with poly(2-methyl-5-vinylpyridine) was active in hydrogenation reaction. (Author abstract) 18 Refs.

Descriptors: *Catalysis; Hydrogenation; Platinum compounds; Vinyl resins; Catalyst activity; Molecular structure; Electron energy levels; X ray photoelectron spectroscopy; Catalysts; Sodium compounds

Identifiers: Poly(vinylpyridine) ligands; Nitrobenzene; 2-Propen-1-ol; Platinum complexes

Classification Codes:

815.1.1 (Organic Polymers)

802.2 (Chemical Reactions); 804.2 (Inorganic Components); 815.1 (Polymeric Materials); 801.4 (Physical Chemistry); 933.3 (Electronic Structure of Solids)

802 (Chemical Apparatus & Plants); 804 (Chemical Products); 815 (Plastics & Polymeric Materials); 803 (Chemical Agents & Basic Industrial Chemicals); 801 (Chemical Analysis & Physical Chemistry); 933 (Solid State Physics)

80 (CHEMICAL ENGINEERING); 81 (CHEMICAL PROCESS INDUSTRIES); 93 (ENGINEERING PHYSICS)

2/9/12 (Item 9 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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03885699 E.I. No: EIP94071332673

Title: Amperometric biosensor for in vivo glucose sensing based on glucose oxidase immobilized in a redox hydrogel

Author: Linke, B.; Kerner, W.; Kiwit, M.; Pishko, M.; Heller, A.

Corporate Source: Medical Univ of Luebeck, Luebeck, Ger

Source: Biosensors & Bioelectronics v 9 n 2 1994. p 151-158

Publication Year: 1994

CODEN: BBIOE4 ISSN: 0956-5663

Language: Engl

Document Type: JA; (Journal Article) Treatment: G; (General Review); X; (Experimental)

Journal Announcement: 9408W2

Abstract: A potentially implantable glucose sensor, based on glucose oxidase immobilized in a redox hydrogel, is considered. The redox hydrogel consisted of glucose oxidase immobilized in a cross-linkable poly(**vinylpyridine**) complex of left bracket Os(bis-bipyridine)//2Cl right bracket ** plus **1**/** plus **2 that communicates electrically with the flavin adenine dinucleotide (FADH//2) redox centres of the glucose oxidase. The implantable electrode consisted of a Teflon insulated platinum wire (0 center dot 25 mm diameter) which was coated at the tip with a cross-linked redox polymer/glucose oxidase film and covered with a thin layer of polycarbonate. In a three-electrode system at plus 400 mV (Ag/AgCl) the response to increasing glucose concentrations in isotonic phosphate buffer and human plasma was approximately 0 center dot 2-0 center dot 3 nA/mM, linear in the range between 0 and 15 mM glucose. No oxygen dependence was observed. To determine the in vivo performance, the electrode was implanted into the subcutaneous tissue of a dog. The sensor currents after an oral glucose load paralleled the plasma glucose measurements, with a time lag of 10 min. Three-day implantations in cultured cells showed that the electrode did not affect the growth and differentiation of cell monolayers. (Author abstract) 11 Refs.

Descriptors: *Amperometric sensors; Glucose sensors; Enzyme immobilization; Redox reactions; Gels; Electrodes; Implants (surgical); Crosslinking; Organic polymers; Growth kinetics

Identifiers: Glucose oxidase; Redox hydrogel; Polyvinylpyridine **complex**; Flavin adenine dinucleotide; Teflon insulated **platinum** wire; Isotonic phosphate buffer

Classification Codes:

462.1 (Biomedical Equipment, General); 942.1 (Electric & Electronic Instruments); 461.8 (Biotechnology); 802.2 (Chemical Reactions); 804.1 (Organic Components); 715.1 (Electronic Equipment, non-communication)

462 (Medical Engineering & Equipment); 942 (Electrical & Electronic Measuring Instruments); 461 (Biotechnology); 802 (Chemical Apparatus & Plants); 804 (Chemical Products); 715 (General Electronic Equipment)

46 (BIOENGINEERING); 94 (INSTRUMENTS & MEASUREMENT); 80 (CHEMICAL ENGINEERING); 71 (ELECTRONICS & COMMUNICATIONS)

2/9/13 (Item 10 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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03808969 E.I. No: EIP94021222549

Title: **Electrically conductive composite prepared by template polymerization of pyrrole into a complexed polymer**

Author: Mohammadi, A.; Paul, D.W.; Inganas, O.; Nilsson, J.O.; Lundstrom, I.

Corporate Source: Linkoping Inst of Technology, Linkoping, Sweden

Source: Journal of Polymer Science, Part A: Polymer Chemistry v 32 n 3 Feb 1994. p 495-502

Publication Year: 1994

CODEN: JPACEC ISSN: 0887-624X

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9404W3

Abstract: Electrically conducting polymer composite films have been synthesized by the exposure of poly(4- **vinylpyridine**) complexed with cupric ions to pyrrole and water vapor. To immobilize a stoichiometric amount of the oxidant inside the polymer matrix, the ratio of poly(4- **vinylpyridine**)/cupric ion equals 1.8 was chosen. Polypyrrole was formed in this tailored structure by a template polymerization process. Opaque polymer composite films with electrical conductivity up to 60 (Omega cm)** minus **1 have been obtained by this method. However, slightly colored transparent composite thin films with a conductivity as high as 50 (Omega

cm)** minus **1 were also produced. The electrically conducting polymer composite films of the metal-polymer **complex** have been characterized by XPS and IR spectroscopy, elemental analysis, EDX, and scanning electron microscopy. The polymerization process was also followed by use of a quartz crystal microbalance. (Author abstract) 38 Refs.

Descriptors: *Composite materials; Conductive films; Polymerization; Complexation; Copper compounds; Electric conductivity; Aromatic polymers; Infrared spectroscopy; Chemical analysis; Scanning electron microscopy

Identifiers: Polypyrroles; Polymer composites; Template polymerization; Poly(4- **vinylpyridine**)

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 815.2 (Polymerization); 802.2 (Chemical Reactions); 804.1 (Organic Components); 942.2 (Electric Variables Measurements); 741.3 (Optical Devices & Systems)

815 (Plastics & Polymeric Materials); 802 (Chemical Apparatus & Plants); 804 (Chemical Products); 942 (Electrical & Electronic Measuring Instruments); 741 (Optics & Optical Devices)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING); 94 (INSTRUMENTS & MEASUREMENT); 74 (OPTICAL TECHNOLOGY)

2/9/14 (Item 11 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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03648053 E.I. No: EIP93050996168

Title: Gas phase hydroformylation of propene catalyzed by a polymer bound rhodium (I) complex

Author: Heinrich, Bernd; Chen, Yuying; Hjortkjaer, Jes

Corporate Source: DTH, Lyngby, Denmark

Source: Journal of Molecular Catalysis v 80 n 3 Apr 6 1993. p 365-375

Publication Year: 1993

CODEN: JMCADS ISSN: 0304-5102

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9308W1

Abstract: The continuous gas phase hydroformylation of propene is catalyzed by a cationic **rhodium** carbonyl **complex** co-ordinatively bound to a copolymer of 2- **vinylpyridine** and methyl acrylate crosslinked with 5 mol% ethene diacrylate. The counter ion had a strong effect on both activity and deactivation. At 403 K and 1100 kPa total pressure (C//3:CO:H//2 equals 2.4:2.2:1.0) the total initial rate was 8.5 multiplied by 10** minus **7 mol/ (s gRh) with tetraphenylborate as counter ion. The regioselectivity was close to 1. The catalyst rapidly lost about 50% of its initial activity. Deactivation was accompanied by benzene formation, indicating a reaction of the tetraphenylborate counter ion with traces of water. As benzene formation diminished, deactivation slowed down. A catalyst with chloride as charge balancing ligand was less active and needed activation at higher temperatures than the tetraphenylborate complex. Only slow deactivation was observed with this catalyst. (Author abstract) 18 Refs.

Descriptors: *Catalysis; Rhodium; Complexation; Propylene; Metallorganic polymers

Identifiers: Hydroformylation; Propene; Gas phase reactions; **Rhodium** complexes; **Vinylpyridine** ; Methyl acrylate; Tetraphenylborate **complex** ; Counter ion effects

Classification Codes:

802 (Chemical Apparatus & Plants); 804 (Chemical Products)

80 (CHEMICAL ENGINEERING)

2/9/15 (Item 12 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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03047670 E.I. Monthly No: EI9104043704

Title: Methanol carbonylation in a liquid w system catalyzed by a polymer-bound rhodium (I) complex.

Author: Hjortkjaer, Jes; Chen, Yuying; Heinrich, Bernd

Corporate Source: Polyteknisk Loereanstalt, Lyngby, Den

Source: Applied Catalysis v 67 n 2 Jan 3 1991 p 269-278

Publication Year: 1991

CODEN: APCADI ISSN: 0166-9834

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9104

Abstract: The continuous liquid-phase carbonylation of methanol in the presence of methyl iodide promotor is catalyzed by a copolymer-bound cis-dicarbonylrhodium (I) complex, which forms the fixed bed in a microcatalytic plug-flow reactor system. The copolymer support with a chelating ligand was prepared from 2- **vinylpyridine**, methyl acrylate and 5 mol-% cross-linking ethene diacrylate. The activity and stability of the catalyst was examined at 20 atm, and 140 and 120 degree C. In the reactor system used here (liquid flow system) the catalyst is not stable. From an initial rate of 1.1 center dot 10** minus **3 mol/s center dot g rhodium the rate decreases to approximately 3.7 center dot 10** minus **4 mol/s center dot g rhodium after six hours. At this activity level the catalyst seems stable, however, with an 'intrinsic activity' (activity per gram rhodium), which is approximately 4.6 times lower than for the homogeneous catalyst. (Author abstract) 26 Refs.

Descriptors: *METHANOL--Carbonylation; CATALYSTS; RHODIUM COMPOUNDS; COPOLYMERS

Identifiers: DICARBONYLRHODIUM COMPLEX; CHELATING LIGAND

Classification Codes:

804 (Chemical Products); 802 (Chemical Apparatus & Plants); 803 (Chemical Agents & Basic Industrial Chemicals); 815 (Plastics & Polymeric Materials)

80 (CHEMICAL ENGINEERING); 81 (CHEMICAL PROCESS INDUSTRIES)

2/9/16 (Item 13 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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02881513 E.I. Monthly No: EI9004039759

Title: Kinetic study of carbonylation of methanol to acetic acid and acetic anhydride over a novel copolymer-bound cis. Dicarbonylrhodium complex.

Author: Chen, Yuying; Yuan, Guoqing; Chen, Rongyao

Corporate Source: Inst of Chemistry, Beijing, China

Source: Chinese Journal of Polymer Science (English Edition) v 7 n 3 1989 p 225-231

Publication Year: 1989

CODEN: CJPSEG ISSN: 0256-7679

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9004

Abstract: The kinetic study of carbonylation of methanol-acetic acid mixture to acetic acid and acetic anhydride over a cis-dicarbonylrhodium complex (MVM prime Rh) coordinated with the ethylene diacrylate (M prime) crosslinked copolymer of methyl acrylate (M) and 2- **vinylpyridine** (V) shows that the rate of reaction is zero order with respect to both reactants methanol and carbon monoxide. However, it is first order in the concentration of promoter methyl iodide and **rhodium** in the complex. Polar solvents can accelerate the reaction. Activation parameters were calculated from experimental results. These parameters are comparable to that of the homogeneous system. A mechanism similar to that of soluble rhodium catalyst is proposed. (Edited author abstract) 10 Refs.

Descriptors: *COPOLYMERS; CATALYSTS--Materials; METHANOL--Carbonylation; CARBON MONOXIDE; CHEMICAL REACTIONS--Reaction Kinetics; ACETIC ACID--Production

Identifiers: ACETIC ANHYDRIDE; COPOLYMER-BOUND CIS-DICARBONYLRHODIUM COMPLEX; METHYL IODIDE

Classification Codes:
815 (Plastics & Polymeric Materials); 803 (Chemical Agents & Basic Industrial Chemicals); 804 (Chemical Products); 802 (Chemical Apparatus & Plants)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING)

2/9/17 (Item 14 from file: 8)

DIALOG(R) File 8:EI Compendex(R)

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02881512 E.I. Monthly No: EI9004039783

Title: Novel copolymer. Bound cis-dicarbonylrhodium complex for the carbonylation of methanol to acetic acid and acetic anhydride.

Author: Yuan, Guoqing; Chen, Yuying; Chen, Rongyao

Corporate Source: Inst of Chemistry, Beijing, China

Source: Chinese Journal of Polymer Science (English Edition) v 7 n 3 1989
p 219-224

Publication Year: 1989

CODEN: CJPSEG ISSN: 0256-7679

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9004

Abstract: A series of porous microspheres of linear and ethylene diacrylate (M prime) cross-linked copolymers of 2- **vinylpyridine** (V) and methyl acrylate (M) were reacted with tetracarbonyldichlorodirrhodium to form a series of cis-dicarbonylrhodium **chelate complex** (MVRh and MVM prime Rh). They are thermally stable yet very reactive in the carbonylation of methanol to acetic acid, and of a methanol-acetic acid mixture to acetic acid and acetic anhydride with a selectivity of 100% under relatively mild and anhydrous conditions. It is shown that thermal stability is brought about by the stabilization of (MVM prime Rh) whose terminal carbonyl groups began to disappear completely at 240 degree C in air. The activity of (MVM prime Rh) increased with the rising of reaction temperature, and had been tested at 180 degree C without deterioration. However, rhodium complexes coordinated with monodentate pyridine derivatives of low molecular weight lose their activity above 160 degree C. (Edited author abstract) 13 Refs.

Descriptors: *COPOLYMERS--*Thermal Properties; METHANOL--Carbonylation; ACETIC ACID--Production; CATALYSTS--Materials

Identifiers: ETHYLENE DIACRYLATE; METHYL ACRYLATE; ACETIC ANHYDRIDE; SODIUM SULFATE; THERMAL STABILITY

Classification Codes:

815 (Plastics & Polymeric Materials); 804 (Chemical Products); 802 (Chemical Apparatus & Plants); 803 (Chemical Agents & Basic Industrial Chemicals)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING)

2/9/18 (Item 15 from file: 8)

DIALOG(R) File 8:EI Compendex(R)

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02591686 E.I. Monthly No: EI8806051150

Title: DOUBLE CARBONYLATION OF ORGANOHALOGEN COMPOUNDS CATALYZED BY POLYMER-BOUND PALLADIUM COMPLEXES.

Author: Feng, Zhiming; Chen, Bushi; Liu, Hanfan

Corporate Source: Chinese Acad of Sciences, Beijing, China

Source: Journal of Macromolecular Science - Chemistry v 24 n 3-4 1987, Macromol-Met Complexes: Sel Pap from the US-China-Jpn Jt Semin, Beijing, China, Oct 20-24 1985 p 289-300

Publication Year: 1985

CODEN: JMCHBD ISSN: 0022-233X

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 8806

Abstract: **Palladium complex** -catalyzed double carbonylation is a

recently discovered reaction in organotransition metal chemistry. In this paper, some poly-~~mer~~-bound palladium complexes-polystyrylphosphine-palladium(0) complexes, poly-2- **vinylpyridine**-palladium(II) complexes, and poly-2-N-vinylpyrrolidone-palladium(II) complexes have been prepared and characterized. The complexes were tested as catalysts in the double carbonylation reaction. Among these catalyst, polystyrylphosphine-palladium(0) complexes showed good activity and selectivity, and can be easily recovered and reused. The influence of experimental parameters was investigated as well. (Author abstract) 20 refs.

Descriptors: ORGANIC COMPOUNDS--Carbonylation; CATALYSIS

Identifiers: POLYMER-BOUND PALLADIUM COMPLEXES; ORGANOHALOGEN COMPOUNDS; DOUBLE CARBONYLATION

Classification Codes:

803 (Chemical Agents & Basic Industrial Chemicals); 804 (Chemical Products); 802 (Chemical Apparatus & Plants)
80 (CHEMICAL ENGINEERING)

2/9/19 (Item 16 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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01905452 E.I. Monthly No: EIM8511-068944

Title: **PALLADIUM CATALYSED VINYLIC SUBSTITUTION OF ARYL HALIDES ON POLYMERIC SUPPORTS.**

Author: Daly, William H.; Sun, Chia-Hsing

Corporate Source: Louisiana State Univ, Dep of Chemistry, Baton Rouge, LA, USA

Conference Title: Polymer Preprints, Division of Polymer Chemistry, American Chemistry Society: Papers presented at the Miami, Florida Meeting.

Conference Location: Miami, FL, USA Conference Date: 19850428

Sponsor: ACS, Div of Polymer Chemistry, Washington, DC, USA

E.I. Conference No.: 07001

Source: Polymer Preprints, Division of Polymer Chemistry, American Chemical Society v 26 n 1 Apr 1985. Publ by ACS, Div of Polymer Chemistry, Washington, DC, USA p 90-91

Publication Year: 1985

CODEN: ACPPAY ISSN: 0032-3934

Language: English

Document Type: PA; (Conference Paper)

Journal Announcement: 8511

Abstract: The objective of this research was to develop and exploit a new polymer-bound palladium catalytic system, derived from poly(4-**vinylpyridine**). It was shown that soluble catalysts derived from 4-picoline, a model compound for the polymer, are stable in the presence of nonnucleophilic bases like 1,8-(bis-N,N-dimethylamino)naphthalene(proton sponge). Other models for different types of polymer systems such as benzyl 4-picolinate, and benzyl 2-(2-pyridyl)cinchoninate have been synthesized. Using appropriate proton scavengers it is possible to prepare soluble catalysts for each of these model systems and to ascertain the **ligand** substituent effects on the reactivity and stability of the **palladium** complexes. The general reaction conditions required to effect vinyllic substitution were established. 4 refs.

Descriptors: *CHEMICAL REACTIONS--*Catalysis; CATALYSTS--Palladium; ORGANIC COMPOUNDS--Chemical Reactions; POLYMERS

Identifiers: VINYLIC SUBSTITUTION; ARYL HALIDES; POLY (4- **VINYLPYRIDINE**) ; 4-PICOLINE; NONNUCLEOPHILIC BASES

Classification Codes:

802 (Chemical Apparatus & Plants); 803 (Chemical Agents & Basic Industrial Chemicals); 804 (Chemical Products); 547 (Precious & Rare Earth Metals & Alloys); 815 (Plastics & Polymeric Materials)

80 (CHEMICAL ENGINEERING); 54 (METAL GROUPS); 81 (CHEMICAL PROCESS INDUSTRIES)

2/9/20 (Item 17 from file: 8)

01577487 E.I. Monthly No: EI8410105345 E.I. Yearly No: EI84065391

Title: EFFECTS OF COMPLEXATION ON THE WATER VAPOR SORPTION OF POLYMER ALLOYS.

Author: Oyama, Hideko Tamaru; Nakajima, Toshinari

Corporate Source: Ochanomizu Univ, Faculty of Home Economics, Tokyo, Jpn

Source: Journal of Applied Polymer Science v 29 n 6 Jun 1984 p 2143-2153

Publication Year: 1984

CODEN: JAPNAB ISSN: 0021-8995

Language: ENGLISH

Journal Announcement: 8410

Abstract: Water sorption measurements of the polyion complex between poly(p-styrenesulfonic acid) (PS//TS) and poly(4- **vinylpyridine**) (PVP) were carried out to study the effect of the Coulombic interactions between a polyanion and a polycation. The properties of the polyion **complex** were examined using infrared spectroscopy (**IR**), X-ray diffraction, X-ray photoelectron spectroscopy (XPS), and elemental analysis. It was found that the ionic groups led to the formation of a 1:1 polyion complex between PS//TS and PVP. The nitrogen 1s level in the PS//TS/PVP polyion complex increased 2.1 eV above its level for PVP, indicating protonation of the pyridine group. In addition, at 293 K and 303 K the water sorption of the complex was larger than that of the sum of the component polymers. In the preceding paper, the water sorption properties of the polyion complex between poly(acrylic acid) (PAA) and PVP were studied. Compared to this complex, the PS//TS/PVP complex absorbed more water relative to its components. 9 refs.

Descriptors: *IONOMERS--*Permeability; WATER--Absorption; COPOLYMERS; SPECTROSCOPY, INFRARED; X-RAY ANALYSIS

Identifiers: POLY(P-STYRENE SULFONIC ACID); POLY(4- **VINYLPYRIDINE**); ELEMENTAL ANALYSIS; X-RAY DIFFRACTION

Classification Codes:

815 (Plastics & Polymeric Materials); 444 (Water Resources); 802 (Chemical Apparatus & Plants); 932 (High Energy, Nuclear & Plasma Physics); 421 (Materials Properties); 801 (Chemical Analysis & Physical Chemistry)

81 (CHEMICAL PROCESS INDUSTRIES); 44 (WATER & WATERWORKS ENGINEERING); 80 (CHEMICAL ENGINEERING); 93 (ENGINEERING PHYSICS); 42 (MATERIALS PROPERTIES & TESTING)

2/9/21 (Item 18 from file: 8)

01481218 E.I. Monthly No: EI8401006459 E.I. Yearly No: EI84098039

Title: STRUCTURE AND SORPTION PROPERTIES OF THE POLYION COMPLEX BETWEEN POLY(ACRYLIC ACID) AND POLY(4- VINYLPYRIDINE).

Author: Oyama, Hideko Tamaru; Nakajima, Toshinari

Corporate Source: Ochanomizu Univ, Faculty of Home Economics, Tokyo, Jpn

Source: Journal of Polymer Science, Polymer Chemistry Edition v 21 n 10 Oct 1983 p 2987-2995

Publication Year: 1983

CODEN: JPLCAT ISSN: 0449-296X

Language: ENGLISH

Journal Announcement: 8401

Abstract: A polyion complex was formed from poly(acrylic acid) (PAA) and poly(4- **vinylpyridine**) (PVP). Its structure and composition were examined by means of infrared spectroscopy (**IR**), x-ray photoelectron spectroscopy (XPS), and elemental analysis. The polyion **complex** was obtained by dissolving PAA and PVP together in methanol. The composition of the polyion complex was independent of stirring speed, mixing sequence, and standing time after mixing. The sorption of water vapor by an equimolar PAA/PVP complex at 293 and 303 K was higher than that by the pure components, especially in the low- and middle-pressure regions. In the high-pressure region, however, the uptake was not affected by the complex formation.

While hydrogen bond interactions in general decrease sorption, Coulombic interactions between polymer chains increased the sorption capacity. 8 refs.

Descriptors: *POLYMERS; SPECTROSCOPIC ANALYSIS

Classification Codes:

815 (Plastics & Polymeric Materials); 801 (Chemical Analysis & Physical Chemistry)

81 (CHEMICAL PROCESS INDUSTRIES); 80 (CHEMICAL ENGINEERING)

2/9/22 (Item 1 from file: 94)

DIALOG(R) File 94:JICST-EPlus

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05182838 JICST ACCESSION NUMBER: 02A0386383 FILE SEGMENT: JICST-E

Formation of Pd Clusters into Microphase-separated Structures of Block Copolymers and Their Controlled Arrangements.

HARADA M (1); HASHIMOTO T (1)

(1) Jst-erato, Kyoto, Jpn

Hashimoto Polym Phasing Proj Symp Multicompon Polym Polyelectrolytes Abstr, 1998, PAGE.31-34, FIG.5, TBL.1, REF.6

JOURNAL NUMBER: N20020610C

UNIVERSAL DECIMAL CLASSIFICATION: 544.23-16.022

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: The authors prepared films of polyisoprene-block-poly(2-vinylpyridine) (PI-b-P2VP) of block-copolymer containing Pd cluster, by the following method. Benzyl alcohol was quickly evaporated from the concentrated benzyl alcohol solution of this polymer containing palladium acetylacetonate. Block copolymers having different volume fractions of PI formed their corresponding microphase-separated structures in benzyl alcohol solutions as well as in cast films. Pd cluster formations in the microphase-separated structure occurred in the P2VP phase through producing P2VP-Pd ion complexes in reduction. Then, the authors examined the following: (1) morphology of microphase-separated structure of cast films of PI-b-P2VP after the formation of Pd clusters and the size of the domain, (2) morphology of PI-b-P2VP structure in concentrated benzyl alcohol solution before reduction by TEM and SAXS measurement and the size of domain.

DESCRIPTORS: diblock copolymer; microphase separation; cluster; arrangement; film casting; plastic film; microdomain; **palladium complex**; transmission electron microscope; polyisoprene; polymer solution; structure analysis; small angle X-ray scattering; alcohol; aromatic compound

IDENTIFIERS: metallic cluster; palladium cluster

BROADER DESCRIPTORS: block copolymer; copolymer; polymer; phase separation; separation; micro structure; structure; polymer processing; working and processing; forming and molding; domain; domain structure; **platinum** group element **complex**; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical); transition metal compound; **platinum** group element **compound**; **palladium compound**; electron microscope; microscope; diene polymer; polyene polymer; macromolecule; solution(liquid); liquid; analysis; X-ray scattering; electromagnetic wave scattering; scattering; small angle scattering; hydroxy compound

CLASSIFICATION CODE(S): CG02022M

2/9/23 (Item 2 from file: 94)

DIALOG(R) File 94:JICST-EPlus

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03141390 JICST ACCESSION NUMBER: 97A0368066 FILE SEGMENT: JICST-E

Synthesis and Crystal Structure of Bis(diphenylphosphino)methane Dipalladium(I) Complex with 2-Vinylpyridine (vpy).

Pd2(.MU.-dppm)2(vpy)Cl!ClO4.

MAEKAWA M (1); MAEKAWA M (1); KURODA-SOWA T (1); YONEDA AKIO (1)

(1) Kinki Univ., Osaka, JPN

Kinki Daigaku Rikogaku Sogo Kenkyujo Kenkyu Hokoku(Science and Technology)

, 1997, NO.9, PAGE.45-51, FIG.1, TBL.4, REF.27

JOURNAL NUMBER: L0250AAE ISSN NO: 0916-2054

UNIVERSAL DECIMAL CLASSIFICATION: 548.73:546.3-386TRANSITION 546.91-386

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: The bis(diphenylphosphino)methane dipalladium(I) complex with 2-vinylpyridine, Pd2(.MU.-dppm)2(vpy)Cl!ClO4 (1) has been prepared and characterized crystallographically. Two Pd atoms are doubly bridged by two dppm ligands to form an eight-membered Pd2P4C2 ring framework in a twist-chair conformation. Each Pd atoms are also coordinated by Cl- ion and N atom of vpy ligand to provide a side-by-side conformation. The Pd - Pd distance of 2.597(2).ANGS. is rather shorter than that (2.75.ANGS.) in the Pd metal, indicative of the existence of a direct Pd-Pd bond. On the eight-membered Pd2C2P4 ring, the torsion angle of 43.2.DEG. is close to 45.DEG. and the Pd-Pd bond of 2.597(2).ANGS. is also shorter than those in other dipalladium(I) dppm complexes. It has been experimentally found that the closer torsion angle is to 45.DEG., the shorter Pd - Pd distance is. **Complex 1** has the following crystal data: orthorhombic, P212121, a=11.882(5), b=11.909(7), c=38.676(5).ANGS., V=5473(3).ANGS.3, Z=4, R=0.048 and Rw=0.046. (author abst.)

DESCRIPTORS: **palladium complex**; dinuclear complex; bridged complex; phosphines; vinyl compound; chloro complex; perchlorate; complex formation; X-ray diffraction; crystal structure; molecular structure; measurement data; internuclear distance; bond angle; steric conformation; aromatic compound; nitrogen heterocyclic compound

BROADER DESCRIPTORS: **platinum group element complex**; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical); transition metal compound; **platinum group element compound**; **palladium compound**; polynuclear complex; phosphorus compound; nitrogen group element compound; olefin compound; chloride; chlorine compound; halogen compound; halide; halogeno complex; chlorine oxoate; halogen oxoate; oxoate; oxygen compound; oxygen group element compound; chemical reaction; X-ray scattering; electromagnetic wave scattering; scattering; diffraction; coherent scattering; structure; data; distance; length; geometric quantity; angle; heterocyclic compound

CLASSIFICATION CODE(S): BK09030X; CE01100E

2/9/24 (Item 3 from file: 94)

DIALOG(R) File 94:JICST-Eplus

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02530524 JICST ACCESSION NUMBER: 96A0979528 FILE SEGMENT: PreJICST-E

Synthesis and external ligand exchange of 2-vinylene-8-quinolinol complexes containing a Pd -C .SIGMA.-bond.

YONEDA AKIO (1); MAEKAWA YOSHIHIKO (1)

(1) Himeji Inst. of Technol., Fac. of Eng.

Nippon Kagakkai Koen Yokoshu, 1996, VOL.71st, PAGE.160

JOURNAL NUMBER: S0493AAY ISSN NO: 0285-7626

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

MEDIA TYPE: Printed Publication

ABSTRACT: The quinolinol ligand containing a 2-vinylene substituent have been prepared from 2-formyl-8-quinolinol. Cyclometalation with Na2PdCl4 in the presence of pyridine afforded the racemic **complex** possessing a Pd -C .SIGMA.-bond in 5,5-fused **chelate** ring. When the external pyridine was changed with triphenyl phosphine, the chiral **Pd (II) complex** surrounded by four different hetero donor atoms was prepared. The structure of one isomer was characterized by X-ray crystallography

and was shown to exist an asymmetric center at .ALPHA -carbon. A Series of cyclometallated complexes possessing diverse N-bases, such as L-phenylethylamine, metronidazole, 4- vinyl pyridine were synthesized. (author abst.)

2/9/25 (Item 4 from file: 94)

DIALOG(R) File 94:JICST-EPlus

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01439962 JICST ACCESSION NUMBER: 92A0170896 FILE SEGMENT: JICST-E

Preparative attempts of oligomer and polymer having trinuclear transition metal cluster with versatile redox behavior as a basic unit.

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Nissan Kagaku Shinko Zaidan Kenkyu Hokokusho(Research Projects in Review, Nissan Science Foundation), 1992, VOL.14(1991), PAGE.309-314, FIG.3

JOURNAL NUMBER: X0726AAW ISSN NO: 0911-4572

UNIVERSAL DECIMAL CLASSIFICATION: 546.91-386 544.23:542.9+

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: The objective of the present study is syntheses of polymer and macromolecular complexes having trinuclear metal cluster complexes of the type, $M_3(\mu_3-O)_n(\mu_2-RCOO)_6(L)_3$ (hereafter abbreviated as M_3), as a basic unit, which shows versatile redox behavior. At first, redox behavior and ligand substitution lability at the terminal position (the L site) were examined on M_3 complexes of Cr, Fe, Ru, Rh, Mo, W, and Ir, aiming at the search for an appropriate basic unit. Among these metal ions, Ru₃ complexes were found to be the best from view points of both the redox behavior and the substitution inertness. Ru₃ shows, without decomposition of the triangular core structure, four reversible one-electron redox waves, which correspond to the formal oxidation states from Ru₃(II, II, III) to Ru₃(III, IV, IV). Although M_3 complexes of other metal ions were not good candidate for the present purpose, many new informations on the chemical properties of these compounds were obtained. Preparations of polymer and macromolecular complexes with Ru₃ units were then explored in the following two ways. One is the synthesis of Ru₃ polymer with pyrazine bridges, and the other is the preparation of PVP poly(4- vinylpyridine)! complex of Ru₃. A new macromolecular complex was successfully prepared by incorporating $Ru_3(\mu_3-O)-(\mu_2-CH_3COO)_6(py)_2(CH_3OH)!$ into PVP through substitution of pyridine residues of PVP for the CH₃OH ligand. It shows distinctive reversible CV waves at -0.05 and +0.95V vs. SCE in aqueous CF₃COO⁻ medium at pH 3, when coated as a film on a glassy carbon electrode (GC). (abridged author abst.)

DESCRIPTORS: ruthenium complex; bridged complex; oxo complex; carbonyl complex; cluster; photodimerization; polymer membrane; polymer complex(metal complex); oxidation-reduction reaction; chemical synthesis; dimer; complex formation; aliphatic carboxylic acid; carboxylate(salt); nitrogen heterocyclic compound

BROADER DESCRIPTORS: platinum group element complex ; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical); transition metal compound; platinum group element compound ; ruthenium compound; polynuclear complex; oxide; chalcogenide; oxygen group element compound; oxygen compound; inorganic carbonyl compound; carbon compound; carbon group element compound; photochemical reaction; chemical reaction; dimerization; functional polymer; macromolecule; membrane and film; reduction(reaction); oxidation; synthesis; multimer; carboxylic acid; heterocyclic compound

CLASSIFICATION CODE(S): CE01100E; CG03040H

2/9/26 (Item 5 from file: 94)

DIALOG(R) File 94:JICST-EPlus

01429769 JICST ACCESSION NUMBER: 91A0790200 FILE SEGMENT: JICST-E
Propene-Deuterium Exchange Reaction over Supported Rh Carbonyl Cluster Complexes.

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Shokubai(Catalysts & Catalysis), 1991, VOL.33,NO.6, PAGE.396-399, FIG.7, TBL.2

JOURNAL NUMBER: F0319AAE ISSN NO: 0559-8958 CODEN: SHKUA

UNIVERSAL DECIMAL CLASSIFICATION: 544.47:544.344

LANGUAGE: Japanese

COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: The mechanism of hydrogen exchange reaction of propene with deuterium was investigated over various Rh carbonyl cluster complexes supported on alumina and poly-4- **vinylpyridine** . Microwave spectroscopy was applied to determine the structure of reaction intermediates. It was demonstrated that C3H6-D2 reaction proceeded through n- and s-propyl intermediates, whereas, C3H3-C3D6 reaction through n- and s-propenyl intermediates. Various alumina supported cluster complexes exhibited similar reaction rates and reaction intermediates, indicating the formation of the same surface structure by supporting. Over PVP supported clusters, the rates as well as reaction intermediates depended on the cluster size, indicating the retention of the skeletal structure by supporting. (author abst.)

DESCRIPTORS: supported catalyst; rhodium catalyst; alumina; polyvinylpyridine; **rhodium complex** ; carbonyl complex; molecular cluster; deuterium; catalyst support; microwave spectroscopy; reaction rate; activation energy; reaction intermediate; association(chemical); dissociation; surface structure; catalytic activity; reaction mechanism ; isotope exchange; alkene

BROADER DESCRIPTORS: catalyst; transition metal catalyst; metal catalyst; aluminum oxide; aluminum compound; 3B group element compound; metal oxide; oxide; chalcogenide; oxygen group element compound; oxygen compound; polymer; **platinum** group element **complex** ; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical); transition metal compound; **platinum** group element **compound** ; **rhodium compound** ; inorganic carbonyl compound; carbon compound; carbon group element compound; molecule; stable isotope; isotope; hydrogen isotope; light nucleus; atomic nucleus; carrier; radio frequency spectroscopy; spectroscopy; velocity; energy; structure ; activity; property; mechanism; exchange; exchange reaction; chemical reaction; olefin compound; aliphatic hydrocarbon; hydrocarbon; unsaturated hydrocarbon

CLASSIFICATION CODE(S): CB06100E

2/9/27 (Item 6 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01425285 JICST ACCESSION NUMBER: 92A0118792 FILE SEGMENT: JICST-E
Preparation and Electrochemical Response of Poly(4- vinylpyridine

)-Coordinated Oxo-acetato Triruthenium Cluster Film.

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(1) Tohoku Univ., Sendai

Chem Lett, 1992, NO.1, PAGE.143-146, FIG.1, REF.13

JOURNAL NUMBER: S0742AAV ISSN NO: 0366-7022 CODEN: CMLTA

UNIVERSAL DECIMAL CLASSIFICATION: 544.23:542.9+ 544.652

LANGUAGE: English

COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: The trinuclear ruthenium cluster

RuIII3(.MU.2.0)(.MU.-CH3COO)6(pyridine)2(CH3OH)!+ was incorporated into poly(4-~~vinylpyridine~~) through substitution of the pyridyl residue for CH3OH to form a new macromolecular complex, which showed distinctive reversible cyclic voltammographic waves at -0.05 and +0.95V vs. SCE in aqueous CF3COO- medium at pH3, when coated on a glassy carbon electrode as a transparent film. (author abst.)

DESCRIPTORS: ruthenium complex; bridged complex; oxo complex; polyvinylpyridine; polymer complex(metal complex); cyclic voltammetry; molecular cluster; polymer membrane; oxidation-reduction reaction; aliphatic carboxylic acid; carboxylate(salt); nitrogen heterocyclic compound

BROADER DESCRIPTORS: ~~platinum~~ group element **complex**; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical); transition metal compound; **platinum** group element **compound**; ruthenium compound; polynuclear complex; oxide; chalcogenide; oxygen group element compound; oxygen compound; polymer; macromolecule; voltammetry; instrumental analysis; analysis(separation); analysis; molecule; functional polymer; membrane and film; reduction(reaction); chemical reaction; oxidation; carboxylic acid; heterocyclic compound

CLASSIFICATION CODE(S): CG03040H; CB07040U

2/9/28 (Item 7 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01209563 JICST ACCESSION NUMBER: 91A0152746 FILE SEGMENT: JICST-E

Palladium-catalyzed vinylation of haloazulenes and halotropolones with olefins. Utility of the heck reaction in the conjugated carbon chain preparation.

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(1) Tohoku Univ., Sendai

Bull Chem Soc Jpn, 1991, VOL.64,NO.1, PAGE.183-190, TBL.2, REF.34

JOURNAL NUMBER: G0450AAJ ISSN NO: 0009-2673 CODEN: BCSJA

UNIVERSAL DECIMAL CLASSIFICATION: 547.51+ 547.66

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: The reactions of 3-iodotropolone with styrenes(styrene, p-methoxystyrene, and 2- **vinylpyridine**), methyl acrylate, and allylic compounds(methyl 3-butenate, 3-butenenitrile, 1-allyl-3,4-dimethoxybenzene, and 1-allyl-3,4-methylenedioxybenzene) were carried out, according to the modified Heck's procedure, to give 3-styryl-, 3-(2-carboxyvinyl)-, and 3-(3-substituted 1-propenyl)tropolones, respectively. Similarly, 4-bromo- or 5-bromotropolone was made to react with these olefins to yield 4-styryltropolone or the corresponding 5-(2-substituted vinyl)- and 5-(3-substituted 1-propenyl)tropolones. Substitution of 2-chlorotropone by styrenes produced 2-styryltropolones. Extension of the vinylation to 2-amino-6-bromoazulenes, ethyl 5-bromo-1-azulenecarboxylate, and diethyl 2-chloro-1,3-azulenedicarboxylate resulted in a similar substitution. (author abst.)

DESCRIPTORS: chemical synthesis; palladium catalyst; vinylation; catalytic reaction; **palladium complex**; vinyl compound; alicyclic alcohol; organohalogen compound; aromatic compound; phosphines; polyene; enone; alicyclic ketone; alicyclic compound; diene; sugar ether

BROADER DESCRIPTORS: chemical reaction; synthesis; transition metal catalyst; metal catalyst; catalyst; alkenylation; substitution reaction; exchange reaction; **platinum** group element **complex**; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical); transition metal compound; **platinum** group element **compound**; **palladium compound**; olefin compound; alcohol; hydroxy compound; phosphorus compound; nitrogen group element compound; unsaturated ketone; ketone; carbonyl compound; carbohydrate

CLASSIFICATION CODE(S): CF04060H; CF06050K

2/9/29 (Item 8 from file: 94)
DIALOG(R) File 94:JICST-EPlus
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00600438 JICST ACCESSION NUMBER: 88A0259134 FILE SEGMENT: JICST-E
An improved synthesis of 3-carbomethoxy-4H-quinolizone via palladium(II) assistance.

NEWKOME G R (1); THERIOT K J (1); FRONCZEK F R (1); CASTEN C C (1)
(1) Louisiana State Univ., LA, USA
Heterocycles, 1988, VOL.27, NO.2, PAGE.385-392, FIG.3, TBL.1, REF.16
JOURNAL NUMBER: S0966AAD ISSN NO: 0385-5414
UNIVERSAL DECIMAL CLASSIFICATION: 547.834/.838
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

ABSTRACT: The synthesis of 3-carbomethoxy-4-quinolizone from 2-**vinylpyridine**, dimethylmalonate and PdCl₂ under mild conditions is described. A mechanism is discussed in which Pd(II) facilitates initial attack by malonate anion on 2-**vinylpyridine** and then acts as an oxidant to give the final product. When the reaction is conducted in MeCN, a condensation of malonate with MeCN occurs as a competing reaction. X-ray crystal structures of this side product as well as 3-carbomethoxy-4-quinolizone are presented. (author abst.)

DESCRIPTORS: chemical synthesis; palladium catalyst; catalytic reaction; palladium chloride; vinyl compound; carboxylate(ester); reaction mechanism; lactam; condensation reaction; cyclization reaction; potassium carbonate; enamine; aliphatic carboxylic acid; aliphatic amine; **palladium complex**; nitrogen heterocyclic compound; carboxylic acid

BROADER DESCRIPTORS: chemical reaction; synthesis; transition metal catalyst; metal catalyst; catalyst; chloride; chlorine compound; halogen compound; halide; **palladium compound**; **platinum group element compound**; transition metal compound; olefin compound; ester; mechanism; carboxamide; heterocyclic compound; potassium compound; alkali metal compound; carbonate(salt); carbon oxoate; oxoate; oxygen compound; oxygen group element compound; carbon compound; carbon group element compound; amine; **platinum group element complex**; transition metal complex; metal complex; complex(compound); coordination compound; compound(chemical)

CLASSIFICATION CODE(S): CF07097Y

2/9/30 (Item 1 from file: 144)
DIALOG(R) File 144:Pascal
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15413363 PASCAL No.: 02-0104414

2-Ethyl-9,10-anthraquinone hydrogenation over Pd/polymers: Effect of polymers-Pd(II) chlorocomplexes interactions

Catalysis inside functional synthetic resins: the issue of catalyst access ibility and stability

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Journal: Journal of molecular catalysis. A, Chemical, 2001, 177 (1)

Two polymers, namely poly(4- **vinylpyridine**) (PVP) and polyaniline (PANI), were used as the supports for palladium catalysts acting in 2-ethyl-9,10-anthraquinone (EAQ) hydrogenation, a key step in the industrial production of H SUB 2 O SUB 2 . The nature of PVP and PANI interactions with various chlorocomplexes of Pd(II) coexisting in PdCl SUB 2 -H SUB 2 O-HCl solutions was studied using IR (mid-IR, far-IR), UV-Vis and XPS spectroscopies. It was found that the type of interactions involving nitrogen atoms of the polymers depended mainly on the acidity of PdCl SUB 2 solution. Protonation of polymers (via acid-base reactions) as well as coordination of Pd SUP 2 SUP + ions by nitrogen atoms of the polymers took place in highly acidic PdCl SUB 2 solution (2 M HCl) containing predominantly anionic (PdCl SUB 4) SUP 2 SUP - , (PdCl SUB 3 (H SUB 2 O)) SUP - complexes (series A of experiments). In the weakly acidic PdCl SUB 2 solutions (0.66 x 10 SUP - SUP 3 M HCl) (series B of experiments) containing predominantly electrically neutral (PdCl SUB 2 (H SUB 2 O) SUB 2) complexes, hydrolysis of the **complex** proceeded as the main process resulting in precipitation of **palladium** oxide on PVP. In the case of PANI in solution B, the redox mechanism was involved resulting in the reduction of some Pd SUP 2 SUP + to Pd SUP 0 accompanied by partial oxidation of the polymer chain. As a consequence of various mechanisms of polymers reactions with Pd SUP 2 SUP + ions, surface morphology of the final catalysts, characterized by XRD and SEM methods, was different. It was found that dispersion of palladium in Pd/PVP and Pd/PANI catalysts (1-10 wt.% Pd) influenced the course of EAQ hydrogenation. The presence of large palladium particles promoted reactions leading to the formation of the so-termed "degradation products" not capable of hydrogen peroxide formation. Pd/PVP catalysts (series B) exhibited higher activity. Selectivity of EAQ hydrogenation in their presence was better than that seen for Pd/PANI catalysts.

English Descriptors: Hydrogenation; Pyridine(4-vinyl) polymer-SUB; Catalytic reaction; Aniline polymer-SUB; Supported catalyst; Catalyst support; Hydrogen Peroxides-FIN; **Palladium** Complexes-ACT; Chloro **complex** ; Ultraviolet visible spectrometry; Infrared spectrometry; Scanning electron microscopy; X ray diffraction; Heterogeneous catalysis
 Broad Descriptors: Transition metal Complexes; Platinoid Complexes; Metal transition Complexe; Platinoide Complexe; Metal transicion Complejo; Platinoide Complejo

French Descriptors: Hydrogenation; Pyridine(4-vinyl)polymere-SUB; Reaction catalytique; Aniline polymere-SUB; Catalyseur sur support; Support catalyseur; Hydrogene Peroxyde-FIN; Palladium Complexe-ACT; Complexe chloro; Spectrometrie UV visible; Spectrometrie IR; Microscopie electronique balayage; Diffraction RX; Catalyse heterogene; 9,10-Anthraquinone(2-ethyl)-ENT; Anthracene-9,10-diol(2-ethyl)-FIN

Classification Codes: 001C01A03A; 001D09D04I

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2/9/31 (Item 2 from file: 144)

DIALOG(R) File 144:Pascal

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14943595 PASCAL No.: 01-0095138

The reduction of nitrobenzene as catalyzed by poly(4- vinylpyridine)-immobilized (Rh(COD) (amine) SUB 2) (PF SUB 6) complexes under WGS conditions

PARDEY A J; FERNANDEZFERNANDEZ M; ALVAREZ J; URBINA C; MORONTA D; LEON V;

LONGO C; BARICELLI P J; MOYA S A

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Journal: Journal of molecular catalysis. A, Chemical, 2000, 164 (1-2) 225-234

ISSN: 1381-1169 Availability: INIST-17107A; 354000093402910250

No. of Refs.: 33 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

Catalysts for the selective reduction of nitrobenzene to aniline prepared from poly(4- **vinylpyridine**) (P(4-VP))-immobilized (Rh(COD)(amine) SUB 2) (PF6) (COD=1,5-cyclooctadiene, amine=4-picoline, 3-picoline, 2-picoline, pyridine, 3,5-lutidine or 2,6-lutidine) complexes in contact with 80% aqueous 2-ethoxyethanol, 1x10 SUP - SUP 4 mol Rh/0.5 g of polymer, 0.9 atm of CO pressure at 100 Degree C under water-gas shift reaction conditions (WGS, CO+H SUB 2 O CO SUB 2 +H SUB 2) are described. Aniline production (milimole/3 h) depends on the nature of the amine and decreases in the following order: 2-picoline (0.65)>4-picoline (0.59)>3-picoline (0.56)>pyridine (0.49)>3,5-lutidine (0.38)>2,6-lutidine (0.34). The immobilized (**Rh** (COD)(2-picoline) SUB 2) (PF SUB 6) **complex** was found to be reusable as a catalyst for the title reaction. The **Rh** /2-picoline **complex** was immobilized to the pyridine groups of the organic polymer as supported by Fourier transform infrared (FT-IR), electron paramagnetic resonance (EPR), X-ray photoelectron spectroscopy (XPS), UV/Vis/diffuse reflectance (DR) spectroscopies, and scanning electron microscopy (SEM) studies.

English Descriptors: Chemical reduction; Supported catalyst; Rhodium Complexes-ACT; Pyridine(4-vinyl) polymer-SUB; Water gas; Photoelectron spectrometry; X ray; Organic ligand; Scanning electron microscopy; Heterogeneous catalysis; Aniline-FIN; Nitro compound; Benzenic compound
Broad Descriptors: Transition metal Complexes; Platinoid Complexes; Metal transition Complexe; Platinoide Complexe; Metal transicion Complejo; Platinoide Complejo

French Descriptors: Reduction chimique; Benzene(nitro)-ENT; Catalyseur sur support; Rhodium Complexe-ACT; Pyridine(4-vinyl)polymere-SUB; Gaz a l'eau ; Spectrometrie photoelectron; Rayon X; Coordinat organique; Microscopie electronique balayage; Catalyse heterogene; Aniline-FIN; Compose nitro; Compose benzenique

Classification Codes: 001C01A03A

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2/9/32 (Item 3 from file: 144)

DIALOG(R) File 144:Pascal

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14940160 PASCAL No.: 01-0091379

Structure and properties of bimetallic colloids formed in polystyrene-block-poly-4- vinylpyridine micelles : Catalytic behavior in selective hydrogenation of dehydrolinalool

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Journal: Journal of catalysis : (Print), 2000, 196 (2) 302-314

ISSN: 0021-9517 CODEN: JCTLA5 Availability: INIST-9623;

354000093525280100

No. of Refs.: 61 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United States

Language: English

Catalytic properties of palladium and bimetallic (PdAu, PdPt, and PdZn) nanoparticles formed in block copolymer micelles derived from polystyrene-block-poly-4-**vinylpyridine** (PS-b-P4VP) were studied in dehydrolinalool (DHL) hydrogenation. FTIR spectroscopy on CO adsorption and XPS show that the second metal (Au, Pt, or Zn) acts as a modifier toward Pd, changing both its electronic structure and its surface geometry. In turn, this change provides higher catalytic activity of bimetallic particles formed in PS-b-P4VP micelles compared to Pd micelles, which can be ascribed mainly to an increase in the number of active centers on the particle surface. High selectivity of DHL hydrogenation (99.8% at 100% conversion) was achieved for all the Pd and bimetallic micellar catalysts, by chemical modification of the nanoparticle surface with pyridine units. Kinetic study of DHL hydrogenation, along with computational kinetic models, allowed us to describe a hydrogenation mechanism with these catalysts.

English Descriptors: Structure; Colloid; Micelle; Catalytic reaction; Hydrogenation; Styrene copolymer; Pyridine(4-vinyl) copolymer; Mixed catalyst; **Platinum** -ACT; Gold-ACT; Zinc-ACT; Acetylenic **compound**; Ethylenic **compound**; Alcohol; Infrared spectrometry; Transmission electron microscopy; Photoelectron spectrometry; X ray; Heterogeneous catalysis

Broad Descriptors: Transition metal; Platinoid; Metal transition; Platinoide; Metal transicion; Platinoide

French Descriptors: Structure; Colloide; Micelle; Reaction catalytique; Hydrogenation; Styrene copolymere; Pyridine(4-vinyl)copolymere; Catalyseur mixte; Platine-ACT; Or-ACT; Zinc-ACT; Compose acetylenique; Compose ethylenique; Alcool; Spectrometrie IR; Microscopie electronique transmission; Spectrometrie photoelectron; Rayon X; Catalyse heterogene; Nanoparticule; Oct-6-en-1-yne-3-ol(3,7-dimethyl)-ENT; Oct-6-en-3-ol(3,7-dimethyl)-FIN

Classification Codes: 001C01A03A

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2/9/33 (Item 4 from file: 144)

DIALOG(R) File 144:Pascal

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14855427 PASCAL No.: 01-0001054

A homogeneous catalyst made of poly(4- vinylpyridine -co-NQ-vinylpyrrolidone) - Pd (0) complex for hydrogenation of aromatic nitro compounds

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Journal: Journal of molecular catalysis. A, Chemical, 2000, 160 (2) 287-292

ISSN: 1381-1169 Availability: INIST-17107A; 354000091621410110

No. of Refs.: 14 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

Poly(4- **vinylpyridine** -co-N-vinylpyrrolidoneXVPy-co-NVP) and its

palladium complex (VPy-NVP- Pd) were prepared. The **palladium complex** was used as catalyst for the hydrogenation of some nitroaromatics. The molar content of VPy units in VPy-co-NVP was determined as 31.25% by SUP 1 H NMR. VPy-NVP-Pd can be easily resolved in ethanol forming a homogeneous catalytic hydrogenation system together with substrates. The optimum catalytic activity for hydrogenation of nitrobenzene appeared when VPy/Pd molar ratio was 2. The catalytic behavior of the catalyst was found to be greatly affected by the type and concentration of added alkalis. The highest hydrogenation rate for nitrobenzene was found in a 0.1 mol/l ethanol solution of potassium hydroxide. The catalytic stability was examined by using nitrobenzene and 4-nitroanisole as substrates.

English Descriptors: Pyridine(vinyl) copolymer; Pyrrolidone(vinyl) copolymer; Catalyst support; **Palladium** -ACT; Zerovalent metal-ACT; Catalyst activity; Hydrogenation; Nitro **compound** ; Benzenic **compound** ; Kinetics; Optimization; Experimental study

French Descriptors: Pyridine(vinyl) copolymere; Pyrrolidone(vinyl) copolymere; Support catalyseur; Palladium-ACT; Metal zerovalent-ACT; Activite catalytique; Hydrogenation; Compose nitro; Compose benzenique; Cinetique; Optimisation; Etude experimentale

Classification Codes: 001D09D04I

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2/9/34 (Item 5 from file: 144)

DIALOG(R) File 144:Pascal

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14604316 PASCAL No.: 00-0272974

Catalysis of the water-gas shift reaction by (Rh(COD)(4-picoline) SUB 2)PF SUB 6 immobilized on poly(4- vinylpyridine) : Characterization of the catalyst and the effect of temperature under continuous-flow conditions

PARDEY A J; FERNANDEZ M; ALVAREZ J; URBINA C; MORONTA D; LEON V; HAUKKA M ; PAKKANEN T A

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Journal: Applied catalysis. A, General, 2000, 199 (2) 275-283

ISSN: 0926-860X Availability: INIST-18840A; 354000088432530110

No. of Refs.: 21 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

The effect of temperature on the water-gas shift reaction, catalyzed by poly(4- **vinylpyridine**) immobilized (Rh(COD)(4-picoline) SUB 2)PF SUB 6 (COD=1,5-cyclooctadiene), has been studied under continuous-flow conditions at 100-180 Degree C. The morphology of the immobilized catalyst was studied using a scanning electron microscope. The immobilized catalyst was also characterized by DTA-TGA analysis, FT-IR, UV-VIS reflectance, electron paramagnetic spectroscopy (EPR) and X-ray photoelectron spectroscopy (XPS), and surface area was determined by the BET method. The temperature dependence follows a segmented Arrhenius behavior. These results are discussed in terms of the possible presence of mono- and polynuclear-anchored rhodium species.

English Descriptors: Catalytic reaction; Water gas; Supported catalyst; Temperature effect; **Rhodium** Complexes-ACT; Pyridine(4-vinyl) polymer-SUB; Organic **ligand** ; Heterogeneous catalysis; Scanning electron microscopy; Arrhenius equation

Broad Descriptors: Transition metal Complexes; Platinoid Complexes; Metal transition Complexe; Platinoide Complexe; Metal transicion Complejo;

French Descriptors: Reaction catalytique; Gaz a l'eau; Catalyseur sur support; Effet temperature; Rhodium Complexe-ACT; Pyridine(4-vinyl)polymere-SUB; Coordinat organique; Catalyse heterogene; Microscopie electronique balayage; Equation Arrhenius

Classification Codes: 001C01A03B

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2/9/35 (Item 6 from file: 144)

DIALOG(R) File 144:Pascal

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14381806 PASCAL No.: 00-0035116

Hydrogenation of acetylene alcohols with novel Pd colloidal catalysts prepared in block copolymers micelles

9th International Symposium on the Relations between Homogeneous and Heterogeneous Catalysis (SHHC-9)

SULMAN E; MATVEEVA V; USANOV A; KOSIVTSOV Yu; DEMIDENKO G; BRONSTEIN L; CHERNYSHOV D; VALETSKY P

EVANS John, ed

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SHHC-9: International Symposium on the Relations between Homogeneous and Heterogeneous Catalysis, 9 (Southampton GBR) 1998-07-19

Journal: Journal of molecular catalysis. A, Chemical, 1999, 146 (1-2) 265-269

ISSN: 1381-1169 Availability: INIST-17107A; 354000080234270280

No. of Refs.: 17 ref(

Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: Netherlands

Language: English

Hydrogenation of the triple bond of acetylene alcohols to the double one of olefin alcohols (linalool, isophytol) was studied with Pd colloids prepared in polystyrene-poly-4- **vinylpyridine** micelles in toluene and deposited on Al SUB 2 O SUB 3 . The high selectivity (99.8% for linalool and 99.5% for isophytol) of such catalyst is explained by durable modification of the Pd nanoparticle surface with 4- **vinylpyridine** units. The activity of the Pd catalyst studied is determined by high reactivity of small Pd nanoparticles. Maximum relative rate was found to be in methanol, but the highest selectivity was achieved in toluene because the latter is a selective solvent for polystyrene-poly-4- **vinylpyridine** micelles and provides the better accessibility of reactive sites.

English Descriptors: Hydrogenation; Catalytic reaction; Acetylenic **compound** ; Alcohol; **Palladium** -ACT; Colloid; Preparation; Block copolymer; Styrene copolymer; Pyridine(vinyl) copolymer; Micelle; Supported catalyst; Alumina-SUB; Ethylenic compound; Heterogeneous catalysis; Selectivity

Broad Descriptors: Transition metal; Platinoid; Metal transition; Platinoide; Metal transicion; Platinoide

French Descriptors: Hydrogenation; Reaction catalytique; Compose acetylenique; Alcool; Palladium-ACT; Colloide; Preparation; Copolymere sequence; Styrene copolymere; Pyridine(vinyl) copolymere; Micelle; Catalyseur sur support; Alumine-SUB; Compose ethylenique; Catalyse heterogene; Selectivite; Linalol-ENT; Hexadec-1-en-3-ol(3,7,11,15-tetramethyl)-ENT

Classification Codes: 001C01A03B

2/9/36 (Item 7 from file: 144)

DIALOG(R) File 144:Pascal

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13941267 PASCAL No.: 99-0123745

WGSR catalyzed by cis-(Rh(CO)2(amine) SUB 2)PF SUB 6 heterogenised on poly(4- vinylpyridine)

PARDEY A J; MEDIAVILLA M; CANESTRARI M; URBINA C; MORONTA D; LUJANO E; BARICELLI P; LONGO C; PASTENE R; MOYA S A

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Journal: Catalysis letters, 1998, 56 (4) 231-235

ISSN: 1011-372X Availability: INIST-21739; 354000074049330120

No. of Refs.: 26 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

This paper describes catalytic activation studies of the water-gas shift reaction by cis-(Rh(CO)2(amine)2)PF6 (amine = 4-picoline, 3-picoline, 2-picoline, pyridine, or 2,6-lutidine) heterogenised on poly(4- **vinylpyridine**) in aqueous 2-ethoxyethanol. The effect of varying the nature of the amine was investigated. The rhodium complexes bearing 4-picoline (4-pic) ligands proved to be most active among those surveyed, and displaying turnover frequencies for hydrogen production of 8.9 mol of H SUB 2 per mole of Rh per day for 9.4×10 SUP - SUP 5 mol cis-(Rh(CO) SUB 2 (4-pic) SUB 2)PF SUB 6 /1.00/g poly(4- **vinylpyridine**), P(CO) = 0.9 atm at 100 Degree C.

English Descriptors: Experimental study; Catalyst; **Rhodium** Carbonyl Complexes-ACT; Fluoro **complex** ; Phosphido **complex** ; Organic **ligand** ; Pyridine; Catalytic reaction; Water gas; Carbon monoxide-ENT; Water-ENT; Carbon dioxide-FIN; Hydrogen-FIN; Scanning electron microscopy; Heterogeneous catalysis

Broad Descriptors: Transition metal Carbonyl Complexes; Platinoid Carbonyl Complexes; Metal transition Carbonyl Complexes; Platinoide Carbonyl Complexe; Metal transicion Carbonilo Complejo; Platinoide Carbonilo Complejo

French Descriptors: Etude experimentale; Catalyseur; Rhodium Carbonyl Complexe-ACT; Complexe fluoro; Complexe phosphuro; Coordinat organique; Pyridine; Reaction catalytique; Gaz a l'eau; Carbone monoxyde-ENT; Eau-ENT; Carbone dioxyde-FIN; Hydrogene-FIN; Microscopie electronique balayage; Catalyse heterogene; 4-Picoline; 3-Picoline; 2,6-Lutidine

Classification Codes: 001C01A03B

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2/9/37 (Item 8 from file: 144)

DIALOG(R) File 144:Pascal

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13008675 PASCAL No.: 97-0291863

Study on the regioselectivity in the rhodium-catalyzed hydroformylation of vinyl - pyridine derivatives

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Journal: Journal of molecular catalysis. A, Chemical, 1997, 118 (2)
173-179

ISSN: 1381-1169 Availability: INIST-17107A; 354000065256210050

No. of Refs.: 12 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

1-alkyl- and 1-arylpyridylethenes were hydroformylated using rhodium catalysts in good yield, the regioselectivity of the CO-insertion being strongly affected by the position of the nitrogen atom of the pyridine moiety. In the case of 1'-alkyl- or 1'-aryl-2- **vinylpyridine** hydroformylation occurs with the exclusive formation of the more branched aldehyde, whereas in the case of aryl substituted 1'-aryl-4- **vinylpyridine** only the more linear aldehyde was detected. Attempts to rationalize the results have been made.

English Descriptors: Experimental study; Catalytic reaction;

Hydroformylation; Regioselectivity; Catalyst; **Rhodium** Carbonyl

Complexes-ACT; Organic **ligand** ; Tertiary phosphine; Pyridine

derivatives-ENT; Vinylic compound; Nitrogen heterocycle

Broad Descriptors: Transition metal Carbonyl Complexes; Platinoid Carbonyl

Complexes; Metal transition Carbonyl Complexes; Platinoide Carbonyl

Complexe; Metal transicion Carbonilo Complejo; Platinoide Carbonilo

Complejo

French Descriptors: Etude experimentale; Reaction catalytique;

Hydroformylation; Regioselectivite; Catalyseur; Rhodium Carbonyl

Complexe-ACT; Coordinat organique; Phosphine tertiaire; Pyridine

derive-ENT; Compose vinylique; Heterocycle azote

Classification Codes: 001C01A03B

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2/9/38 (Item 9 from file: 144)

DIALOG(R) File 144:Pascal

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13001609 PASCAL No.: 97-0284497

Preconcentration and separation of palladium(II&rparr; and platinum (IV&rparr; on a dithizone anchored poly(vinylpyridine &rparr;-based chelating resin

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Journal: Analytica chimica acta, 1997, 341 (2-3) 217-224

ISSN: 0003-2670 CODEN: ACACAM Availability: INIST-3950;

354000065139080024

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English Summary Language: English

Copyright (c) 1996 Elsevier Science B.V. All rights reserved. A chelating resin was prepared through the reaction between chloromethylated poly(**vinylpyridine** &rparr; and dithizone. The resin shows high affinity for noble metal ions such as palladium(II&rparr;, platinum(IV&rparr; and gold(III&rparr;. At batch and column levels, the preconcentration of palladium and platinum was studied. Various conditions such as pH, temperature, flow rate and column parameters were optimized for the maximum extent of palladium and platinum loading. Palladium and platinum loadings of 100 and 250mgg SUP - SUP 1, respectively, were achieved at optimized conditions. Mixtures of 0.1M HCl and 1.0 thiourea or 0.1M HCl and 5.0 thiourea solution could elute palladium and platinum quantitatively.

Separation of palladium(II) and platinum(IV) from gold(III) and nickel(II) was achieved quantitatively.

English Descriptors: **Palladium** II Complexes; **Platinum** II Complexes; Organic **ligand**; Dithizone; Ion exchange resin; Pyridine derivative polymer; Separation; Chemical enrichment; Optimization; Chelating resin

French Descriptors: Palladium II Complexe; Platine II Complexe; Coordination organique; Dithizone; Resine échangeuse ion; Pyridine derive polymere; Separation; Enrichissement chimique; Optimisation; Resine chelatante

Classification Codes: 001C04B02

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2/9/39 (Item 10 from file: 144)

DIALOG(R) File 144:Pascal

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12943132 PASCAL No.: 97-0215708

Mechanistic study of hydrogenation of cyclohexene catalyzed by polymer-supported palladium (II) complex in various solvents

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Journal: Reactive & functional polymers, 1996, 29 (2) 91-99

ISSN: 1381-5148 Availability: INIST-19380; 354000063574390030

No. of Refs.: 19 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

Gelular poly(**vinylpyridine**)-supported palladium catalysts and their analogue have been prepared, and used to study the mechanism of hydrogenation and the solvent effect on catalytic activities. When the polymer-supported Pd catalyst was used in the hydrogenation of cyclohexene, an induction period is observed. The hydrogenation occurs via heterolytic activation of hydrogen. The relationship between the rate of hydrogenation and the solubility parameter of the solvent shows a concave curve with a minimum value at which point the polymer and solvent have similar solubility parameters. The mechanism of hydrogenation of cyclohexene has been suggested.

English Descriptors: Pyridine(vinyl) polymer; Catalyst support; **Palladium** II Complexes-ACT; Chloro **complex** -ACT; Hydrogenation; Cycloalkene-ENT; Kinetics; Reaction mechanism; Solvent effect; Heterogeneous catalysis; Experimental study

French Descriptors: Pyridine(vinyl) polymere; Support catalyseur; Palladium II Complexe-ACT; Complexe chloro-ACT; Hydrogenation; Cycloalkene-ENT; Cinetique; Mecanisme reaction; Effet solvant; Catalyse heterogene; Etude experimentale; Cyclohexene-ENT

Classification Codes: 001D09D04I

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2/9/40 (Item 11 from file: 144)

DIALOG(R) File 144:Pascal

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12608904 PASCAL No.: 96-0297062

Dithizone-anchored poly(vinylpyridine) as a chelating resin for the

**preconcentration and separation and gold(III) from platinum (IV),
copper(II) and mercury(II)**

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Journal: Analyst : (London), 1996, 121 (6) 807-811

ISSN: 0003-2654 CODEN: ANALAO Availability: INIST-1036;

354000044027990190

No. of Refs.: 19 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom

Language: English

Dithizone, one of the specific reagents for the determination of gold, was coupled to cross-linked poly(**vinylpyridine**) and was used for the preconcentration of nanogram levels of gold. The polymeric support was characterized as regards the extent of dithizone coupling and its thermal properties. The support was also used under batch and column conditions for the preconcentration of gold. Various conditions such as pH, temperature, flow rate and column parameters were optimized for the maximum amount of gold loading. A gold loading of 240 mg per gram of support was achieved under the optimized conditions. Mixtures of 0.2 mol dm SUP - SUP 3 HCl and 2.0% thiourea (1 + 1) and of 5.0 mol dm SUP - SUP 3 HCl and 1.0 mol dm SUP - SUP 3 HNO SUB 3 (1 + 1) could elute gold quantitatively. Separation of gold from binary and ternary mixtures of platinum, copper and mercury was achieved without any cross-contamination.

English Descriptors: Chemical analysis; Trace analysis; Chemical enrichment ; Separation; Metal complex; Dithizone; Ion exchange resin; Pyridine(vinyl) copolymer; Crosslinked polymer; Optimization; Multicomponent mixture; Gold-ANA; Platinoid; Chelating resin

French Descriptors: Analyse chimique; Analyse trace; Enrichissement chimique; Separation; Metal complexe; Dithizone; Resine echangeuse ion; Pyridine(vinyl) copolymere; Polymere reticule; Optimisation; Melange complexe; Or-ANA; Platinoide; Resine chelatante

Classification Codes: 001C04B02

2/9/41 (Item 12 from file: 144)

DIALOG(R) File 144:Pascal

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12519080 PASCAL No.: 96-0192976

Hydroformylation catalyzed by immobilized rhodium complex to polymer support

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Symposium on Syngas Conversion to High Value Chemicals, 211 (New Orleans, LA USA) 1996-03

Journal: Preprints - American Chemical Society. Division of Petroleum Chemistry, 1996, 41 (1) 243-245

ISSN: 0569-3799 CODEN: ACPCAT Availability: INIST-11864;

354000044883500590

No. of Refs.: 7 ref.

Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: United States

Language: English

The present paper describes preparation and properties of **rhodium** carbonyl **complex** catalyst bound to **vinyl pyridine** polymer for propylene and 1-octene hydroformylations

English Descriptors: Experimental study; Catalytic reaction; Hydroformylation; Hydrocarbon; Ethylenic **compound** ; Propene-ENT; Supported catalyst; **Rhodium** Carbonyl Complexes-ACT; Pyridine(vinyl) polymer-SUB; NMR spectrometry; Heterogeneous catalysis

Broad Descriptors: Transition metal Carbonyl Complexes; Platinoid Carbonyl

Complexes; Metal transition Carbonyle Complexe; Platinoide Carbonyle Complexe; Metal transition Carbonilo Complejo; Platinoide Carbonilo Complejo

French Descriptors: Etude experimentale; Reaction catalytique; Hydroformylation; Hydrocarbure; Compose ethylenique; Propene-ENT; Catalyseur sur support; Rhodium Carbonyle Complexe-ACT; Pyridine(vinyl) polymere-SUB; Spectrometrie RMN; Catalyse heterogene; Oct-1-ene-ENT

Classification Codes: 001C01A03B; 001D06B07A; 230

2/9/42 (Item 13 from file: 144)

DIALOG(R) File 144:Pascal

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12314283 PASCAL No.: 95-0551855

Polymer-stabilized Pd sols : kinetics of sol formation and stabilization mechanism

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Journal: Journal of colloid and interface science, 1995, 175 (1) 12-26

ISSN: 0021-9797 CODEN: JCISA5 Availability: INIST-4124;

354000054739890030

No. of Refs.: 37 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: English

The effects of different water-soluble polymers such as polyvinyl alcohol (PVA), polyvinylpyrrolidone (PVP), and poly-2- **vinylpyridine** (P2VP) on the mechanism of sol formation and stabilization of aqueous nanometer-sized Pd sols have been studied using TEM and UV/VIS photospectroscopy. In the case of UV/VIS spectroscopy an (empirical relation between the absorbance at high wavelength and the particle size is found. A weakly adsorbing polymer (PVA) does not affect the sol formation. On the other hand, strongly adsorbing polymers like PVP and P2VP retard the growth of the particles. Two other parameters that affect the particle size are the reducing agent (H SUB 3 PO SUB 2) concentration and the oxygen content of the solution. The effect of the polymer concentration and the molecular weight of the polymer on the stability and sedimentation of the Pd sol indicates that the weakly adsorbing PVA does not adapt its conformation during adsorption onto the very small Pd particles. Therefore, adsorption of Pd particles on a PVA coil is probably a more realistic model for this system. On the other hand, strongly adsorbing polymers like PVP and P2VP will adapt their conformation, resulting in a kind of "beads on a string" structure. The sol formation/stabilization mechanism of P2VP sols is complex compared to that of PVP-stabilized sols, because of the polyelectrolyte character of P2VP.

English Descriptors: Experimental study; Preparation; Colloidal sol;

Palladium ; Stabilization; Soluble **compound** ; Polyvinylalcohol;

Pyrrolidone(vinyl) polymer; Pyridine(2-vinyl) polymer; Particle size;

Transmission electron microscopy

Broad Descriptors: Uebergangsmetalle; Platinmetalle; Transition metal;

Platinoid; Metal transition; Platinoide; Metal transicion; Platinoide

French Descriptors: Etude experimentale; Preparation; Sol colloidal;

Palladium; Stabilisation; Compose soluble; Vinylique alcool polymere;

Pyrrolidone(vinyl) polymere; Pyridine(2-vinyl)polymere; Dimension

particule; Microscopie electronique transmission

Classification Codes: 001C01J05

2/9/43 (Item 14 from file: 144)

DIALOG(R) File 144:Pascal

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12196802 PA L N 95-0412766

On the measurements of pseudocapacitances in thin polymer films on electrode surfaces

LINDHOLM-SETHSON B; TJAERNHAGE T; SHARP M

Umea univ., dep. analytical chemistry, 901 87 Umea, Sweden

Journal: Electrochimica acta, 1995, 40 (11) 1675-1679

ISSN: 0013-4686 CODEN: ELCAAV Availability: INIST-1516;

354000051585640130

No. of Refs.: 22 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom

Language: English

The apparent discrepancy between pseudocapacitances measured with different techniques which is observed for thin poly(4- **vinylpyridine**) coatings containing IrCl SUB 6 SUP 2 SUP - SUP / SUP 3 SUP - on gold electrodes is discussed. The phenomenon is explained by the establishment of slow relaxation processes in the charge transport mechanism at high concentrations of redox sites

English Descriptors: Experimental study; Electrodes; Gold; Transition metal ; Modified material; Thin film; Pyridine(4-vinyl) polymer; Redox polymer; **Iridium Complexes-ACT; Chloro complex ; Anionic complex ; Aqueous solution; Electrochemical properties; Electrical impedance; Capacitance; Cyclic voltammetry**

French Descriptors: Etude experimentale; Electrode; Or; Metal transition; Materiau modifie; Couche mince; Pyridine(4-vinyl)polymere; Polymere redox ; Iridium Complexe-ACT; Complexe chloro; Complexe anionique; Solution aqueuse; Propriete electrochimique; Impedance electrique; Capacite electrique; Voltammetrie cyclique; Acetique acide(trifluoro)-SOL; Sodium acetate(trifluoro)-SOL

Classification Codes: 001C01H02B; 001D09D04D

2/9/44 (Item 15 from file: 144)

DIALOG(R) File 144:Pascal

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11445223 PASCAL No.: 94-0279696

Synthese und Koordinationschemie hemilabiler P,N-Hybridliganden mit terminalen 2-Pyridyl-Donorgruppierungen

(Synthesis and coordination chemistry of hemilabile P,N-hybride ligands with terminal 2-pyridyl donor groups)

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Bergische Univ-GH Wuppertal, Anorganische Chemie, 42097 Wuppertal, Federal Republic of Germany

Journal: Chemische Berichte, 1994, 127 (3) 481-488

ISSN: 0009-2940 CODEN: CHBEAM Availability: INIST-4625;

354000025672960050

No. of Refs.: 30 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Federal Republic of Germany

Language: German Summary Language: English

P,N-hybride ligands 1-7 containing terminal 2-pyridyl donor groups have been obtained by base-catalyzed addition of diphenylvinylphosphane or 2- **vinylpyridine** to primary or secondary phosphanes (2-Py-(CH SUB 2) SUB 2 -PR'H (R'=H, Ph), HMeP-(CH SUB 2) SUB 3 -PMeH) or by alkylation of organolithium phosphides, R SUB 2 P-(CH SUB 2) SUB 3 -PMeLi or 2-Py-(CH SUB 2) SUB 2 -PR'Li (R=Ph, iPr; R'=H, Ph), with 2-(2-chloroethyl)pyridine or di-tert-butylphosphetanium bromide. Upon reaction with NiBr SUB 2 . 3H SUB 2 O or K SUB 2 MCl SUB 4 (M=Pd, Pt) the phosphanes (L) of type 2-Py-(CH SUB 2) SUB 2 -P(R')-(CH SUB 2) SUB m -PR SUB 2 (1, 3, 6) form square planar Ni(II), Pd(II), and Pt(II) complexes of composition MX SUB 2 (L) (10-14)

English Descriptors: Nickel II Complexes-FIN; Palladium II Complexes-FIN; Platinum II Complexes-FIN; Nickel II Carbonyl Complexes-FIN; Rhodium I Complexes-FIN; Organic ligand ; Tripod ligand ; Tetradentate ligand ; Tridentate ligand ; Tertiary phosphine; Dertiary phosphine; Nitrogen heterocycle; Six membered ring; Halo complex; Cationic complex; Hydrates; NMR spectrum; X ray diffraction; Crystalline structure; Molecular structure; Experimental study

Broad Descriptors: Transition metal Complexes; Divalent metal Complexes; Platinoid Complexes; Transition metal Carbonyl Complexes; Univalent metal Complexes; Metal transition Complexes; Metal divalent Complexes; Platinoide Complexes; Metal transition Carbonyl Complexes; Metal monovalent Complexes; Metal transition Complejo; Metal divalente Complejo; Platinoide Complejo; Metal transicion Carbonilo Complejo; Metal monovalente Complejo

French Descriptors: Nickel II Complexe-FIN; Palladium II Complexe-FIN; Platine II Complexe-FIN; Nickel II Carbonyl Complexe-FIN; Rhodium I Complexe-FIN; Coordinat organique; Coordinat tripode; Coordinat tetradente; Coordinat tridente; Phosphine tertiaire; Phosphine ditertiaire; Heterocycle azote; Cycle 6 chainons; Complexe halogeno; Complexe cationique; Hydrate; Spectre RMN; Phosphine(phenyl 2-(2-pyridyl)ethyl)-ENT; Phosphine(diphenyl vinyl)-ENT; Trimethylenebis(methylphosphine)-ENT; Pyridine(2-vinyl)-ENT; Phosphine(2-(2-pyridyl)ethyl)-ENT; Propane(1,3-bis(methyl 2-(2-pyridyl)ethyl phosphino)); Phosphine(bis(2-(diphenylphosphino)ethyl) phenyl 2-(2-pyridyl)ethyl); Propane(1-di-t-butylphosphino-3-(phenyl 2-(2-pyridyl)ethyl phosphino)); Phosphore 31; Hydrogene 1; 6166F; Diffraction RX; Structure cristalline; Structure moleculaire; Etude experimentale

Classification Codes: 001C02B04; 001B60A66F5

2/9/45 (Item 16 from file: 144)

DIALOG(R) File 144:Pascal

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11339148 PASCAL No.: 94-0161120

Microelectrochemical multitransistor devices based on electrostatic binding of electroactive anionic metal complexes in protonated poly(4-vinylpyridine) : devices that can detect and distinguish up to three species simultaneously

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MIT, dep. chemistry, Cambridge MA 02139, USA

Journal: Analytical chemistry : (Washington), 1993, 65 (20) 2740-2746

ISSN: 0003-2700 CODEN: ANCHAM Availability: INIST-120 B;

354000048325810080

No. of Refs.: 17 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: English

Microelectrochemical multitransistor devices based on the reversible electrostatic incorporation of electroactive anionic metal complexes, such as IrCl SUB 6 SUP 2 SUP -, Mo(CN) SUB 8 SUP 4 SUP -, and Fe(CN) SUB 6 SUP 4 SUP -, into protonated poly(4-vinylpyridine) ((VPyH SUP +) SUB n) can detect and differentiate between these species. Arrays of closely spaced, individually addressable, band microelectrodes are connected by (VPyH SUP +) SUB n . Pairs of these microelectrodes are operated as independent microelectrochemical transistors. Each transistor shows high drain current only when its gate potential corresponds to the redox potential of a metal complex bound to the (VPyH SUP +) SUB n , and this serves as the means of detecting and identifying the metal complex

English Descriptors: Experimental study; Microelectrode; Transistor; Electrochemical reaction; Iron Complexes; Molybdenum Complexes; Iridium Complexes; Cyano complex ; Anionic complex ; Hexacyanoferrates II;

Electrolyte solution; Electrochemical detector; Simultaneous measurement
Broad Descriptor: Transition metal Complexes; Metal transition Complexes;
Metal transition Complejo

French Descriptors: Etude experimentale; Microelectrode; Transistor;
Reaction electrochimique; Fer Complexe; Molybdene Complexe; Iridium
Complexe; Complexe cyano; Complexe anionique; Hexacyanoferrate II;
Solution electrolyte; Detecteur electrochimique; Mesure simultanee;
Pyridine(4-vinyl) polymere; Octacyanomolybdate; Hexachloroiridate

Classification Codes: 001C01H02B

2/9/46 (Item 17 from file: 144)

DIALOG(R) File 144:Pascal

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11117980 PASCAL No.: 93-0625004

Current-time-temperature characteristics of poly(2- vinylpyridine)-
platinum complex

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Journal: Journal of materials science letters, 1993, 12 (16) 1286-1287

ISSN: 0261-8028 CODEN: JMSLD5 Availability: INIST-12733 L;

354000035636740170

No. of Refs.: 9 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom

Language: English

English Descriptors: Organometallic polymer; Pyridine(2-vinyl) polymer;
Platinum Complexes; Electrical properties; Current time characteristic;
Temperature effect; Experimental study

French Descriptors: Polymere organometallique; Pyridine(2-vinyl)polymere;
Platine Complexe; Propriete electrique; Caracteristique courant temps;
Effet temperature; Etude experimentale

Classification Codes: 001D09E03

2/9/47 (Item 18 from file: 144)

DIALOG(R) File 144:Pascal

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10702301 PASCAL No.: 93-0211600

Mesomorphic metal complexes derived from 4-alkyloxystilbazoles

BRUCE D W; DAVIS S C; DUNMUR D A; HUDSON S A; MAITLIS P M; STYRING P

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Univ., dep. chemistry, Sheffield South Yorks. S3 7HF, United Kingdom

European conference on liquid crystals, 7 (Courmayeur ITA) 1991-03-16

Journal: Molecular crystals and liquid crystals : (1991), 1992, 215 1-11

ISSN: 1056-8816 Availability: INIST-12857; 354000032413050010

No. of Refs.: 19 ref.

Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: USA

Language: English

The weakly mesomorphic trans-4-alkyloxy-4'-stilbazoles (n-OPhVPy) are readily synthesised from alkyloxyiodobenzenes and 4- **vinylpyridine** in a palladium-catalysed Heck reaction. While the highly symmetric palladium and platinum complexes trans-(MCl SUB 2 (n-OPhVPy) SUB 2) show mesophases only at very high temperatures, the lower symmetry platinum complexes trans-(PtCl SUB 2 (eta SUP 2 -olefin) (n-OPhVPy)) melt below 100 SUP o C. Similarly, the complexes (MCl(CO) SUB 2 (eta SUP 2 -OPhVPy)) (M=Rh, Ir) are low melting

English Descriptors: Mesophase; Inorganic **compound** ; Liquid crystals;

Experimental study; Nematic state; Organic **ligand**; **Rhodium** Carbonyl Complexes; **Iridium** Carbonyl Complexes; Silver Complexes; **Palladium** II Complexes; **Platinum** II Complexes; Nitrogen heterocycle; Six membered ring; Ether; Benzenic **compound**
Broad Descriptors: Transition metal Carbonyl Complexes; Metal transition Carbonyl Complex; Metal transition Carbonilo Complejo

French Descriptors: Mesophase; Compose mineral; Cristal liquide; Etude experimentale; Etat nematique; Coordinat organique; Rhodium Carbonyl Complexe; Iridium Carbonyl Complexe; Argent I Complexe; Palladium II Complexe; Platine II Complexe; Heterocycle azote; Cycle 6 chainons; Ether; Compose benzenique; Pyridine(alcoxystyryl)

Classification Codes: 001B10A07

2/9/48 (Item 19 from file: 144)
DIALOG(R) File 144:Pascal
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09745088 PASCAL No.: 91-0542222

Effect of supporting electrolyte on the mediated reduction of (Fe(H SUB 2 O) SUB 6) SUP 3 SUP + by an osmium-containing poly(4- vinylpyridine) film
FORSTER R J; VOS J G

Dublin city univ., school chemical sci., Dubli 9, United Kingdom

Journal: Journal of the Chemical Society. Faraday transactions, 1991, 87 (12) 1863-1867

Availability: INIST-594; 354000014754420090/NUM

No. of Refs.: 17 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom

Language: English

The ability to control the mediation kinetics of (Fe(H SUB 2 O) SUB 6) SUP 3 SUP + reduction by (Os(bipy) SUB 2 (PVP) SUB 1 SUB 0 Cl)Cl films through electrode potential, film thickness and supporting electrolyte is demonstrated; bipy=2,2'-bipyridyl, PVP=poly(4- **vinylpyridine**). In H SUB 2 SO SUB 4 , the mediated reduction is controlled by film thickness for surface coverages between 7×10^{-8} SUP - SUP 1 SUP 0 and 1×10^{-8} SUP - SUP 8 mol cm SUP - SUP 2 (Lk mechanism). For surface coverages $> 10^{-7}$ SUP - SUP 7 mol cm SUP - SUP 2 total catalysis is obtained where substrate diffusion in solution limits the reduction rate (LSk mechanism). In HClO SUB 4 the mediated reaction is of the surface type and occurs between (Fe(H SUB 2 O) SUB 6) SUP 3 SUP + still in solution and the film within a region of molecular dimensions (Sk mechanism). These observations are considered in relation to film structure and with regard to potential applications

English Descriptors: Electrochemical reaction; Chemical reduction; Electrocatalysis; Rotating disk electrode; Transition metal; **Platinum** ; Carbon; Glassy state; Modified material; Transition metal Complexes; Organic **ligand** ; Chloro complex; Inorganic compound; Aqua complex; Medium effect; Aqueous solution; Experimental study; Iron III Complexes; Osmium II Complexes

French Descriptors: Reaction electrochimique; Reduction chimique; Electrocatalyse; Electrode disque tournant; Metal transition; Platine-ACT ; Carbone-ACT; Etat vitreux; Materiau modifie; Metal transition Complexe; Coordinat organique; Complexe chloro; Compose mineral; Complexe aqua; Effet milieu; Solution aqueuse; Etude experimentale; Fer III Complexe-ENT ; Osmium II Complexe-ACT; Sulfurique acide-SUB; Perchlorique acide-SUB; 2,2p-Bipyridyle; Pyridine(4-vinyl) polymere

Classification Codes: 001C01H04B

2/9/49 (Item 20 from file: 144)

Compose allylique; Palladium II Chlorure-ENT; Metallocycle; Metal transition Complexes; Platinoide Complexe; Palladium Complexe organique; Coordinat organique; Phosphine tertiaire; Metal divalent Complexe; Complexe chloro; Structure cristalline; Diffraction RX; Palladium II Complexe; Propene-2ol-1((pyridyl-2)-2) acetate-ENT; Palladium((acetoxy-3 (pyridyl-2)-2) propenyl) complexe; Structure moleculaire; Etude comparative; Triphenylphosphine; Pyridine

Classification Codes: 001C03C01H

2/9/51 (Item 22 from file: 144)

DIALOG(R) File 144:Pascal

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07843026 PASCAL No.: 87-0322754

Reduction of nitroaromatics with poly (vinylpyridine) complexes of palladium(II) and platinum(II)

SAHA C R; SOMNATH BHATTACHARYA

Indian inst. technology, Kharagpur 721302, India

Journal: Journal of chemical technology and biotechnology (1986), 1987, 37 (4) 233-245

ISSN: 0268-2575 Availability: CNRS-560

No. of Refs.: 21 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom

Language: ENGLISH

La reduction de composes benzeniques nitro et du benzaldehyde par les complexes du titre est plus efficace avec les complexes de palladium qu'avec ceux du platine. L'activite diminue quand le poids moleculaire des supports polymeres augmente. Proposition de mecanisme de reaction

English Descriptors: Nitro **compound** ; Chemical reduction; **Palladium II Complexes**; **Platinum II Complexes**; Ethanol; Pyridine(vinyl) polymer; Reaction support; Aldehyde; Benzenic **compound** ; Condensed benzenic compound; Solvent effect; Rate constant; Substituent effect; Catalytic reaction; Benzaldehyde

French Descriptors: Compose nitro; Reduction chimique; Palladium II Complexe-ACT; Platine II Complexe-ACT; Ethanol-SUB; Pyridine(vinyl) polymere; Support reaction; Aldehyde; Compose benzenique; Compose benzenique condense; Effet solvant; Constante vitesse; Effet substituant; Reaction catalytique; Benzaldehyde-ENT; Benzene(nitro)-ENT; Aniline-FIN; Naphtalene(nitro-1); Naphtyl-lamine; Complexe chloro

Classification Codes: 001C03B01

2/9/52 (Item 23 from file: 144)

DIALOG(R) File 144:Pascal

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07835558 PASCAL No.: 87-0315281

Synthesis of a rhodium -poly(4- vinylpyridine) complex : electrochemical behaviour of a modified platinum electrode

CANCELA J J; FERNANDEZ-OTERO T

Fac. cienc. quimicas, dep. quimica inorganica, San Sebastian 1072, Spain

Journal: Makromolekulare Chemie, 1986, 187 (10) 2401-2409

ISSN: 0025-116X Availability: CNRS-4111

No. of Refs.: 22 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Switzerland

Language: ENGLISH

Le complexe est oxyde a un potentiel superieur a 600 mV dans H SUB 2 SO SUB 4 0,5 M et reduit a un potentiel inferieur

English Descriptors: Pyridine(4-vinyl) polymer; Rhodium complexes;
Preparation; Electrochemical properties; Electrodes; Modified material;
Elementary analysis; Infrared spectrometry; Electron spectrometry;
Voltammetry; Polychelate; Use; Coating material; Platinum

French Descriptors: Pyridine(vinyl-4) polymere; Rhodium Complexe;
Preparation; Propriete electrochimique; Electrode; Materiau modifie;
Analyse elementaire; Spectrometrie IR; Spectrometrie electron;
Voltammetrie; Polymere coordination; Utilisation; Materiau revetement;
Platine-SUB

Classification Codes: 001D09E01

2/9/53 (Item 24 from file: 144)

DIALOG(R) File 144:Pascal

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07061988 PASCAL No.: 86-0062092

**Concurrent catalytic reduction/stoichiometric oxidation using
oligomerically ligated catalysts and polymer-bound reagents**

BERGBREITER D E; CHANDRAN R

Texas A&M univ., dep. chemistry, College Station TX 77843, USA

Journal: Journal of the American Chemical Society, 1985, 107 (16)

4792-4793

ISSN: 0002-7863 Availability: CNRS-551

No. of Refs.: dissem.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: ENGLISH

On decrit un catalyseur d'hydrogenation au rhodium, coordine, avec des oligomeres d'ethylene diphenylphosphinosubstitue, qui peut etre utilise comme catalyseur homogene pour effectuer la reduction en alcene d'un substrat qui peut en meme temps etre oxyde par un oxydant insoluble au Cr(VI) lie au poly(**vinylpyridine**). Application aux alcools insatures

English Descriptors: Oxidation; Chemical reaction; Catalytic reaction;
Competitive reaction; Stoichiometry; Oxidant; Chromium VI Complexes;
Organic **ligand** ; Pyridine(vinyl) polymer, **Rhodium** Complexes;
Polyethylene; Hydrogen Chlorides; Chromium VI Oxides; Chloro **complex** ;
Tertiary phosphine; Reaction support; Alcohol

French Descriptors: Oxydation; Reaction chimique; Reaction catalytique;
Reaction concurrente; Stoechiometrie; Oxydant; Chrome VI Complexe;
Coordinat organique; Pyridine(vinyl) polymere; Rhodium Complexe-ACT;
Ethylene polymere; Hydrogene Chlorure; Chrome VI Oxyde; Complexe chloro;
Phosphine tertiaire; Support reaction; Alcool; Cyclohexene-3methanol-ENT;
Cyclohexanecarbaldehyde-FIN; Compose ethylenique

Classification Codes: 001C03A

2/9/54 (Item 25 from file: 144)

DIALOG(R) File 144:Pascal

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04269702 PASCAL No.: 75-0010259

ON A PT (II)-POLY (4- VINYLPIRIDINE) COMPLEX

CERNIA E; GASPARINI F

INST. CHIM. IND., UNIV. ROMA, ITALY

Journal: J. APPL. POLYM. SCI., 1975, 19 (3) 915-916

Availability: CNRS-1257

No. of Refs.: 13 REF.

Document Type: P (SERIAL) ; A (ANALYTIC)

Country of Publication: USA
Language: ENGLISH
SYNTHESE ET QUELQUES PROPRIETES PHYSICO-CHIMIQUES DE CE COMPLEXE

English Descriptors: COMPLEXES; ORGANIC LIGAND; POLYCHELATE; PREPARATION;
PYRIDINE(4-VINYL) POLYMER; REACTIVITY; INFRARED SPECTROMETRY; INFRARED
SPECTROSCOPY

English Generic Descriptors: PHYSICO-CHEMISTRY OF POLYMERS; MACROMOLECULAR
CHEMISTRY

French Descriptors: PYRIDINE(VINYL-4) POLYMER; COMPLEXE; PLATINE II
COMPOSE ORGANIQUE; REACTIVITE; SPECTROMETRIE IR; PREPARATION; COORDINAT
ORGANIQUE; POLYMER COORDINATION

French Generic Descriptors: PHYSICOCHIMIE DES POLYMERES; CHIMIE
MACROMOLECULAIRE

Classification Codes: 780A05B04

2/9/55 (Item 26 from file: 144)

DIALOG(R) File 144:Pascal

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03687076 PASCAL No.: 82-0203870

**BINDING OF PENTACHLOROIRIDITE TO PLASMA POLYMERIZED VINYL PYRIDINE FILMS
AND ELECTROCATALYTIC OXIDATION OF ASCORBIC ACID**

FACCI J; MURRAY R W

UNIV. NORTH CAROLINA, KENAN LAB. CHIM./CHAPEL HILL NC 27514, USA

Journal: ANAL. CHEM. (WASH.), 1982, 54 (4) 772-777

ISSN: 0003-2700 Availability: CNRS-120B

No. of Refs.: 37 REF.

Document Type: P (SERIAL) ; A (ANALYTIC)

Country of Publication: USA

Language: ENGLISH

SUR L'ELECTRODE DE CARBONE ON DEPOSE UN FILM DE PYRIDINE(VINYL) POLYMER
SUR LEQUEL ON A FIXE LE COMPLEXE (IRCL SUB 5 (ACETONE)) SUP 2- .
APPLICATION DE CETTE ELECTRODE MODIFIEE A L'OXYDATION DE L'ACIDE ASCORBIQUE

English Descriptors: ELECTRODES; CARBON-ACT; MODIFIED MATERIAL; IRIIDIUM
COMPLEXES-ACT; ELECTROCATALYSIS; OXIDATION; ELECTROCHEMICAL REACTION; OSE
; CHEMICAL UPTAKE; CYCLIC VOLTAMMETRY; ANIONIC **COMPLEX** ; ORGANIC **LIGAND**
; CHLORO **COMPLEX** ; ACETONE; CARBON; **IRIDIUM COMPLEX** ; PYRIDINE(VINYL)
POLYMER

English Generic Descriptors: ORGANIC CHEMISTRY

French Descriptors: ELECTRODE; CARBONE-ACT; MATERIAU MODIFIE;

PYRIDINE(VINYL) POLYMER; IRIIDIUM COMPLEXE-ACT; ELECTROCATALYSE;

OXYDATION; REACTION ELECTROCHIMIQUE; OSE; FIXATION CHIMIQUE; VOLTAMMETRIE

CYCLIQUE; COMPLEXE ANIONIQUE; COORDINAT ORGANIQUE; COMPLEXE CHLORO;

ASCORBIQUE ACIDE-ENT; ACETONE

French Generic Descriptors: CHIMIE ORGANIQUE

Classification Codes: 173B05A

2/9/56 (Item 27 from file: 144)

DIALOG(R) File 144:Pascal

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03490449 PASCAL No.: 81-0510533

**CHARGE TRANSPORT BY ELECTRON EXCHANGE CROSS REACTION IN CYCLIC
VOLTAMMETRY OF IRCL SUB 6 SUP 3- -FE(CN) SUB 6 SUP 3- MIXTURES TRAPPED
IN POLYCATIONIC FILMS ON ELECTRODES**

FACCI J; MURRAY R W

UNIV. NORTH CAROLINA, KENAN LAB. CHEM./CHAPEL HILL NC 27514, USA

Journal: J. PHYS. CHEM., 1981, 85 (20) 2870-2873

ISSN: 0022-3654 Availability: CNRS-549

No. of Refs.: 10 REF

Document Type: P (SERIAL) ; A (ANALYTIC)

Country of Publication: USA

Language: ENGLISH

FE(CN) SUB 6 SUP 3- ET IRCL SUB 6 SUP 3- PEUVENT ETRE SIMULTANEMENT INSERES, A PARTIR DE SOLUTIONS DE LICL 2 M (PH 2,8) DANS DES FILMS DE COPOLYMERES DE **VINYLPYRIDINE** ET DE (GAMMA -METHACRYLOXYPROPYL) TRIMETHOXSILANE RECOUVRANT DES ELECTRODES DE PT. CONSIDERATIONS SUR LES VITESSES DE TRANSPORT DE CHARGE ELECTRIQUE A TRAVERS LE FILM ET LES VITESSES D'OXYDATION OU DE REDUCTION DES COMPLEXES DONNES DE PT ET D'IR, AINSI DE LEURS INFLUENCES MUTUELLES

English Descriptors: PLATINOID **COMPLEX** ; TRANSITION METAL **COMPLEX** ; KINETICS; OXIDATION; CHEMICAL REDUCTION; ELECTROCHEMICAL REACTION; **PLATINUM** -ACT; AQUEOUS SOLUTION; ELECTRODE; CHARGE TRANSFER; **IRIDIUM** III **COMPLEX** ; IRON III **COMPLEX** ; ANIONIC **COMPLEX** ; CHLORO **COMPLEX** ; CYANO **COMPLEX** ; ELECTRON EXCHANGE; ELECTRODES; MODIFIED MATERIAL; **PLATINUM** ; PYRIDINE(VINYL) COPOLYMER; REDUCTION; NON METAL COATING; SILANE COPOLYMER; ORGANIC SILANE; AQUEOUS SOLUTIONS; SALINE SOLUTION; CYCLIC VOLTAMMETRY

English Generic Descriptors: PHYSICAL CHEMISTRY; ELECTROCHEMISTRY

French Descriptors: ~~COMPLEXE ANIONIQUE; COMPLEXE CHLORO; COMPLEXE CYANO; PLATINOIDE COMPLEXE; METAL TRANSITION COMPLEXE; CINETIQUE; OXYDATION; REDUCTION CHIMIQUE; REACTION ELECTROCHIMIQUE; MATERIAU MODIFIE; PLATINE-ACT; SOLUTION AQUEUSE; SOLUTION SALINE; PYRIDINE(VINYL) COPOLYMER; ELECTRODE; REVETEMENT NON METALLIQUE; TRANSFERT CHARGE; IRIDIUM III COMPLEXE; FER III COMPLEXE; SILANE ORGANIQUE; SILANE COPOLYMER; ECHANGE ELECTRON; VOLTAMMETRIE CYCLIQUE~~

French Generic Descriptors: CHIMIE PHYSIQUE; ELECTROCHIMIE

Classification Codes: 171A15D02

2/9/57 (Item 28 from file: 144)

DIALOG(R) File 144:Pascal

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01128951 PASCAL No.: 76-0034674

PALLADIUM (II) CATALYSED AROMATIC ACETOXYLATION. IX. AN INSOLUBLE POLY-4-VINYLPYRIDINE PALLADIUM (II) COMPLEX AS CATALYST FOR THE ACETOXYLATION OF AROMATIC COMPOUNDS

EBERSON L; JONSSON L

CHEM. CENT., UNIV. LUND, P.O. BOX 740, S-22007 LUND 7, SWEDEN

Journal: ACTA CHIM. SCAND., B, 1976, 30 (6) 579-580

Availability: CNRS-4545B

No. of Refs.: 10 REF.

Document Type: P (SERIAL) ; A (ANALYTIC)

Country of Publication: DENMARK

Language: ENGLISH

English Descriptors: ACETOXYLATION; BENZENE DERIVATIVES; SUPPORTED CATALYST ; KINETICS; BENZENIC COMPOUND; P-XYLENE; POLYCHELATE; PYRIDINE(4-VINYL) POLYMER; CATALYTIC REACTION; REACTION SUPPORT; TOLUENE; POLYVINYL DERIVATIVE

English Generic Descriptors: ORGANIC CHEMISTRY

French Descriptors: ACETOXYLATION; COMPOSE BENZENIQUE; ANISOLE; TOLUENE; P-XYLENE; BENZENE DERIVE; CINETIQUE; REACTION CATALYTIQUE; CATALYSEUR SUR SUPPORT; SUPPORT REACTION; PYRIDINE(VINYL-4) POLYMER; VINYLIQUE DERIVE POLYMER; POLYMER COORDINATION; (CHLORO)

French Generic Descriptors: CHIMIE ORGANIQUE

Classification Codes: 170D04E02